

DECEMBER 1932

SOAP

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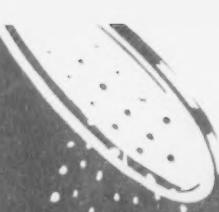
FOR NATURAL OILS



Due to conditions affecting all imports some of the lower priced natural products have been increased materially in price or in some cases are practically unobtainable. For many years Givaudan has been developing a wide variety of efficient substitutes for natural oils. These substitutes have been adopted for regular use by many of the country's leading soap manufacturers and their use is constantly increasing—not only because they are economical and available in adequate quantities, but because they have been found to give consistently excellent results. Givaudan invites you to test these products. Write us outlining your requirements on all matters pertaining to aromatics and perfume materials.

GIVAUDAN
DE LAWANNA, INC.
80 FIFTH AVENUE, NEW YORK, N. Y.

and Sanitary Chemicals



WHETHER you market paradichlorbenzene for general deodorizing and sanitary purposes, for moth control, for killing peach tree borers or for any other purpose, you can always depend on Monsanto Santochlor.

Since the natural tendency of the material to "cake" or "set up" is minimized, Santochlor is always free-flowing, uniform and effective. Large scale operations enable Monsanto to give you a white product of exceptionally high quality, that vaporizes completely without leaving a residue.

Santochlor is available in the standard sizes which the trade has found most effective in meeting the majority of actual requirements. Samples of these sizes will be gladly furnished on request. MONSANTO CHEMICAL COMPANY, St. Louis, U. S. A. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Montreal, London.

Monsanto Products for Manufacture of Sanitary Products include: Santochlor, Orthodichlorbenzene, Methyl Salicylate U. S. P., Phenol U.S.P., Nitre Cake, Cresylic Acid, Tri Sodium Phosphate, Wetting Agents.

SANTOCHLOR CRYSTALS

(Pure Paradichlorbenzene)

are free-flowing...uniform...effective

MONSANTO CHEMICALS
SERVING INDUSTRY... WHICH SERVES MANKIND



Labeled right TOO!

SlypNOTic WAXES

Feature: Slip-resistance. High Luster. Water-proofness. Long Wear.

The above features may be claimed for your present wax. But when it's all said and done, thousands of users know that it is truthfully said about SlypNOTic WAXES—and easily done. GRADED IN WAX SOLIDS FROM 12.2% to 15.5%.

ANNOUNCING PARAID DEODORANT BLOCKS From 2 to 24 oz.

This new line combines the quality perfuming and processing of our popular Para-Lel Line[®] and the economy of our AIR-AID Line[®]. We invite your consideration of this new low priced block matching many so-called high grade lines. It is the new companion line to

VITOZONE BLOCKS

The world's leading quality deodorant blocks.

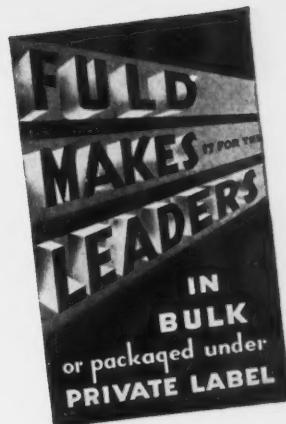
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DEODORANT BLOCKS
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SPECIAL CLEANERS
SOAP DISPENSERS
DEODORANT BLOCK HOLDERS

FULD BR[®]

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SALES OFFICES: SEATTLE KANSAS CITY SAN FRANCISCO
METROPOLITAN NEW YORK OFFICE: 127 TROUTMAN ST., BROOKLYN, N. Y. TELEPHONE: EVERgreen 8-2496 BOSTON



F

uld Private Label Service means something, for it provides dealers with accurate information complying with all government label regulations, as well as direction requirements.

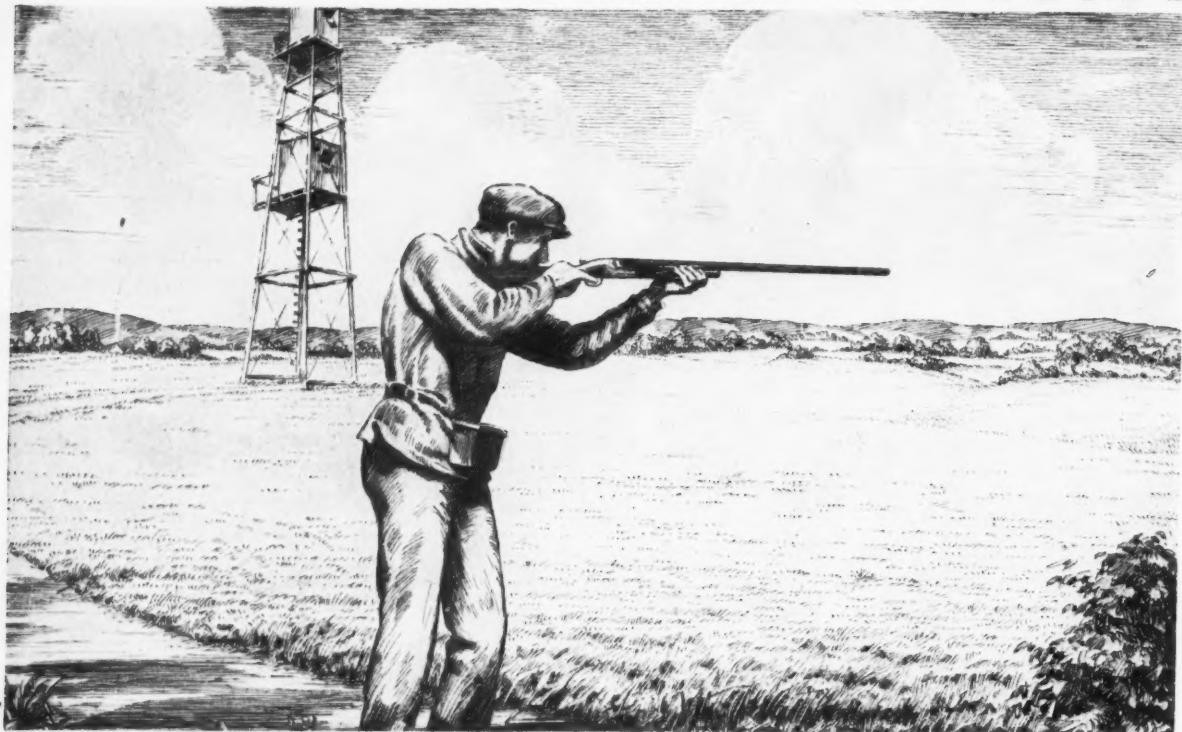
WINTER-PROOFED LIQUID SOAPS

Sell liquid soaps that secure you against winter complaints of "chapping hands," "clogging valves" and "reduced lathering". Our GRADE A and MEL'VET Liquid Soaps are scientifically treated to make them soothing to the skin, to flow freely and to produce the quick lathering your customers demand. ALL CONCENTRATIONS UP TO 40%.

PINE OIL DISINFECTANTS

Not over 10% Inert Ingredients.
Not Less Than 100% Satisfaction.
Biologically Tested Germ Killing Strength. Made From Pure-Steam-Distilled Pine Oil. Residue-Free Milk-White Emulsions. Passing All Commercial Standard Specifications. All Colors Up To Light Gold.

INTERESTING USES OF ALKALIES



A Vital Step In The Manufacture Of Smokeless Powder

Smokeless nitrocellulose powder has largely replaced the black potassium nitrate powders for shotgun shells and rifle cartridges. In the preparation of nitrocellulose for this purpose, caustic soda plays a vital part. Before the cellulose can be converted into its nitro compound the fats and oils from the raw cotton are removed by the use of caustic soda in the ratio of about 2% to the weight of the raw cotton.

Because the function of alkalies in manufacturing industries is seldom recognized in the finished product, the average layman has little conception of the tremendous tonnage of caustic soda, soda ash, liquid chlorine and bicarbonate of soda used in manufacturing such important

commodities as chemicals, paper, soap, textiles, glass, foods and drugs. Neither does he realize how numerous and how varied are the uses made of these alkalies. Some of the more or less obscure and minor uses have been depicted in this series of advertisements here concluded.

We shall be glad to send you free of charge a large size reproduction of above illustration, "The Skeet Shooter" suitable for framing, if requested on business letterhead and naming magazine in which you saw this advertisement.

We have taken this novel way of bringing the name COLUMBIA to the attention of executives, technicians and purchasing heads with the hope that the high quality of COLUMBIA products and the dependability of COLUMBIA service will be remembered through the year and years that lie ahead.

COLUMBIA

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE . . .
MODIFIED SODAS • LIQUID CHLORINE • CALCIUM CHLORIDE

THE COLUMBIA ALKALI CORPORATION
EXECUTIVE SALES OFFICES: 30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

Plant: Barberton, Ohio
CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • CINCINNATI • CLEVELAND • MINNEAPOLIS • PHILADELPHIA



Soap

Volume XV
Number 12

and Sanitary Chemicals

Reg. U. S. Pat. Office

DECEMBER
1939



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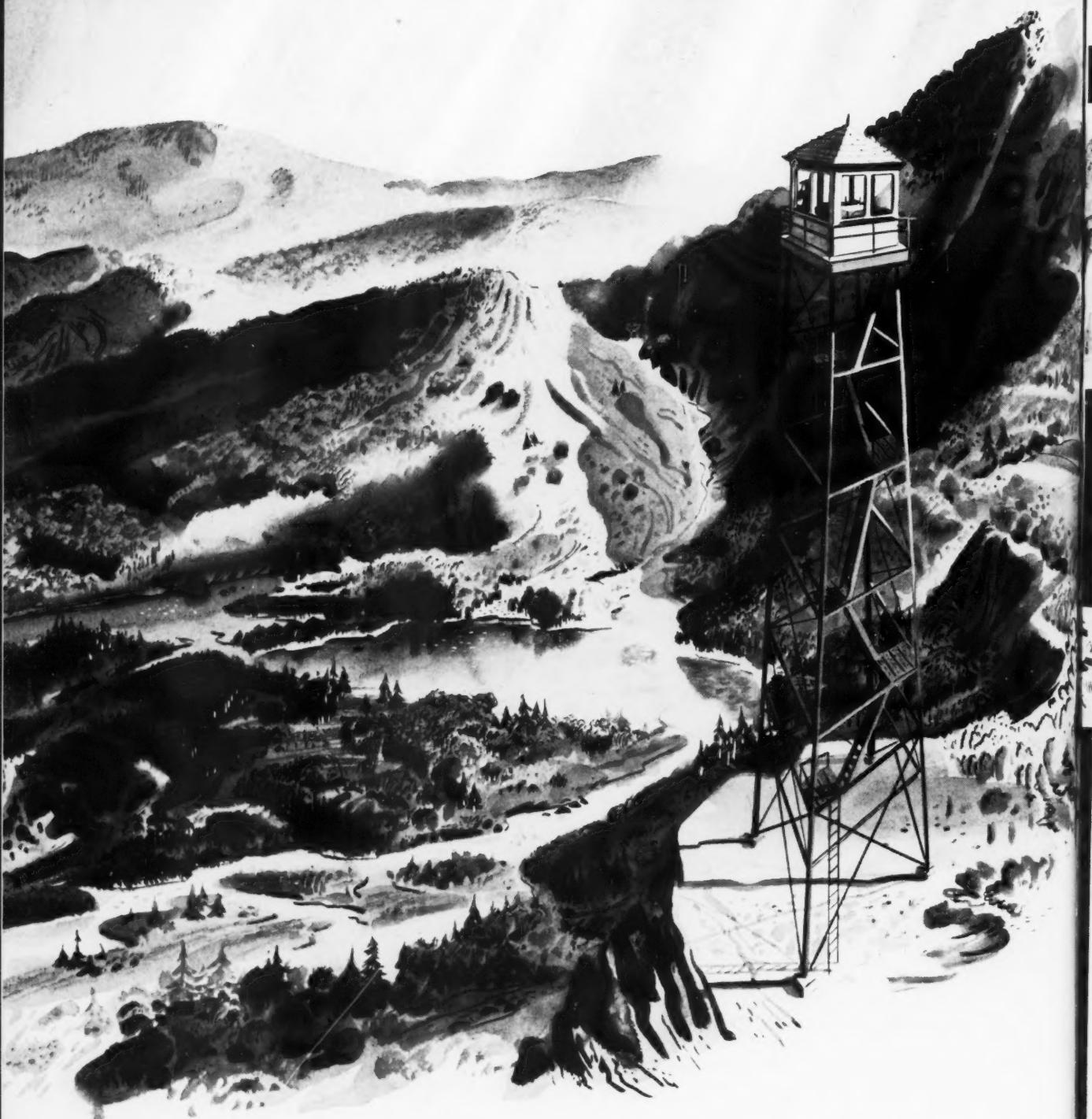
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MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

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COMPLETE RESPONSIBILITY



● Perched atop a 200-foot spider of steel sits the Forest Ranger...master and guardian of a million acres of sun-scorched timber...constantly watching for the first faint spiral of smoke which may spell irreparable loss...His is the *Complete Responsibility* for protecting Nature's unspoiled treasures.

● **Complete Responsibility** is also important when selecting a source for your containers and closures. When you choose a single, dependable source of supply, you eliminate the endless worry and detail that comes with scattering your shots—buying from many suppliers instead of placing Complete Responsibility for all your requirements with Anchor Hocking.

We've earned this reputation for responsibility—earned it by years of experience, years of doing the same jobs well, fast and often. This experience that backs Anchor Hocking's packaging engineers is ready to go to work for you... without the slightest obligation. Experts in packaging research, design and merchandising are ready to prove to you that glass can do your packaging job better.

Take advantage of these services that Anchor Hocking offers to packers. We're ready to assume Complete Responsibility. May we discuss your packaging problems with you?

ANCHOR HOCKING PRODUCTS AND SERVICES

P & P WARE

FOOD CONTAINERS

LIQUOR & WINE BOTTLES

BEER AND BEVERAGE BOTTLES

THIN-BLOWN PACKERS' TUMBLERS

GLASS PREMIUM WARE

TABLEWARE

HOTEL, BAR & RESTAURANT WARE

GLASS FOR INDUSTRIAL USES

CLOSURES:

metal and molded; airtight and vacuum; friction, screw and lug types

AMERSEAL NOZZLES—

for cans containing liquids

SEALING MACHINES—

hand, foot and semi-automatic types

PROCESSING EQUIPMENT—

for processing glass-packed products

RESEARCH & ENGINEERING STAFF

EXPERIMENTAL & TESTING LABORATORIES

DESIGN SERVICE

ANCHOR HOCKING GLASS CORPORATION
Lancaster, Ohio

*Closure Division: ANCHOR CAP & CLOSURE CORPORATION,
Long Island City, N. Y. and Toronto, Canada*

ANCHOR HOCKING
- an unbeatable combination



These general utility gallon and half gallon jugs are adaptable for a variety of products sold to laboratories, hospitals and institutions. Containers shown are sealed with Anchor Improved C.T. Caps.

INDUSTRIAL CHEMICAL SALES

CHARLES W. WEST, VIRGINIA COAL AND FISHER COMPANY
230 Park Avenue
CHICAGO
15 E. Wacker Drive

PHILADELPHIA
1225 Widener Bldg.

New York City
CLEVELAND
417 Scherzer Bldg.

**THERE'S A BIG MARKET
FOR AGREEABLY SCENTED
FORMALDEHYDE PREPARATIONS**

*Perfume them
correctly with*

FELTON

FORMAROMES!

Theatres, hospitals, office buildings . . . in fact almost any place where people congregate are in most cases buyers of antiseptic and deodorant sprays of the formaldehyde type. Sales, however, are frequently limited by the inherently disagreeable odor of Formaldehyde itself.

To overcome this objectionable feature, Felton Chemical Company has developed a line of special aromatics . . . Formaromes . . . which definitely

neutralize the inherent odor and impart an agreeable, pleasant scent to formaldehyde preparations, such as:

- ★ Disinfectant Sprays
- ★ Antiseptic and Deodorant Sprays
- ★ Embalming Preparations

Send us a sample of your formaldehyde preparation. Our laboratory will recommend the proper formarome to use with it.

FORMARONES WILL IMPROVE THE ODOR OF

ALL TYPES OF FORMALDEHYDE PRODUCTS



FELTON CHEMICAL COMPANY Inc.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUMES OILS, ARTIFICIAL FLOWER and FLAVOR OILS

603 JOHNSON AVE., BROOKLYN, N. Y.

Boston, Mass. Philadelphia, Pa. Sandusky, Ohio. Chicago, Ill. St. Louis, Mo. New Orleans, La. Los Angeles, Cal. San Francisco, Cal.
40 Bayston St. 200 So. 12th St. 1408 W. Market St. 1200 N. Ashland Ave. 4910 W. Pine Blvd. Balter Bldg. 4727 W. Washington Blvd. 707 Kohl Blvd.
Portland, Ore. Montreal, Que., Canada. 353 St. Nichols St. Toronto, Ont., Canada. 137 Wellington St., West. Seattle, Wash. 1020 Fourth Ave. So.
121 N.W. 5th Ave. 353 St. Nichols St. 137 Wellington St., West. Seattle, Wash. 1020 Fourth Ave. So.
Denver, Colo. 1729 Arapahoe St.

A hint from the day's news

by Albert Verley, Inc.

Verley's Rose Geranium Simplifies Save Money, Assure Dependable Supply

Help you conserve your
supply of natural Rose
Geranium products
without loss of quality

You can profit by getting
acquainted with Rose Geranium Bourbon, Artificial and
Rose Geranium African, Artificial.

Many of their good friends
tell us that these Verley specialties do more for them and
go farther than many specialties at double the money.

These Rose Geranium simplifies not only enable you to
stabilize cost, but their judicious use also enables you to
conserve your stock of natural Rose Geranium products

— without sacrifice of your
standards of quality. Commendation for your technical
skill and sound business judgment is sure to follow.

Your supply of Rose Geranium is not at the mercy of martial events. All the special and new aromatic chemicals that enter into these important specialties are manufactured by us at our Chicago plant. Rose Geranium, Artificial is now completely fabricated in America. You can depend on these products, come what may.

Send for your samples. Try them — get acquainted with them — learn what you can do with them and what they can do for you. Adopt Rose Geranium, Artificial.

Albert Verley aromatics

ALBERT VERLEY, INC., D. A. BENNETT, President • 1621 CARROLL AVE., CHICAGO, ILL.

114 EAST 25th STREET, NEW YORK

MEFFORD CHEMICAL CO., LOS ANGELES

JUST SOAP?
... or
BETTER SOAP!

HERE ARE THE PROPERTIES OF
GENERAL CHEMICAL
TETRASODIUM PYROPHOSPHATE
ANHYDROUS, POWDER

- ★ Uniform high strength and quality.
- ★ Finely divided—its fineness improves its blending qualities in both white and colored soaps.
- ★ Easily incorporated—due to its fine particle size.
- ★ Distributes more uniformly.

★ Manufactured
by improved
methods.



REPACKERS! GENERAL CHEMICAL
Diamond Grade
TETRASODIUM PYROPHOSPHATE
ANHYDROUS
Is Especially Designed for Use in
Detergent Compounds!

General Chemical Tetrasodium Pyrophosphate, Anhydrous, Powder, possesses many of the advantages desired by soap manufacturers because of these characteristics:

- 1 Removes dirt quickly, *holds it in suspension!*
- 2 Gives a "lift" to soap by building more abundant suds.
- 3 It is mildly alkaline—a 1% solution has a pH of approx. 10.1.
- 4 Helps wash white clothes whiter—colored clothes their true color.
- 5 Aids rinsability—imparts a shine to glassware and reduces streaking.
- 6 Tends to eliminate rust and iron stains by keeping iron in solution.
- 7 Slows down scale formation by dissolving and keeping in solution many compounds that are often precipitated from soaps and alkalies in normal wash solutions.
- 8 Is an excellent water softener.

GENERAL CHEMICAL COMPANY

Executive Offices: 40 RECTOR STREET, NEW YORK, N. Y.

Sales Offices: Atlanta • Baltimore • Boston • Buffalo • Charlotte (N. C.) • Chicago
Cleveland • Denver • Houston • Kansas City • Los Angeles • Milwaukee • Minneapolis
Montezuma (Ia.) • Philadelphia • Pittsburgh • Providence (R. I.) • San Francisco
St. Louis • Utica (N. Y.) • Wenatchee (Wash.) • Yakima (Wash.)
In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver



Established in 1798

*For 141 Years Dodge & Olcott have been
suppliers of fine*

PERFUMING MATERIALS

for Soap Manufacturers

D & O Essential Oil Specialties Include

Cloves, U. S. P.
Patchouli, D & O
Ylang Ylang
Vetivert
Citronella, Java
Citronella, Ceylon

Sandalwood, D & O
Bergamot, Sanderson's
Lavender, Fleur
Lavender, Spike
Geranium, African
Geranium, Reunion

Other D & O Specialties

Sassafras, Safrol and Camphor Products
Anisic Aldehyde—Indol—Styryl Alcohol
Ionones for Soap—Eugenol—Isoeugenol

Also a full line of D & O PETRODORS for perfuming
insecticide sprays; D & O TINTODORS, perfume-color
compounds for para blocks, moth crystals, bath salts, etc.

DODGE & OLCOTT COMPANY

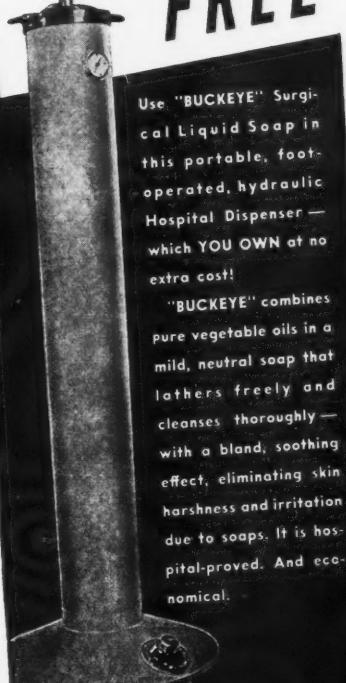
180 Varick Street New York, N. Y.

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

Plant and Laboratories . . . Bayonne, N. J.

To "Buckeye"
Soap Users:

THIS PRACTICAL,
APPROVED
DISPENSER
FREE



Send coupon below for SAMPLE of this Soap; names of DEALERS; and remarkable FREE OFFER of this valuable dispenser.

"BUCKEYE"
Surgical
LIQUID SOAP

As Advertised in
MODERN HOSPITAL

HERE'S HOW to Make Hospital Surgical Soap Business "ALL YOURS"!

Cash in on this Sensational, PROVEN PLAN to WIN and "BUCKEYE" HOLD Customers for

Surgical
LIQUID SOAP

This Remarkable FREE OFFER Now Being Announced to the Nation's Hospitals . . . Be Prepared to Meet the Demand, and PROFIT!

Dealers in "BUCKEYE" Surgical Liquid Soap now have EVERY advantage in selling the Hospital business! In addition to the recognized superior quality of this Soap itself . . . its economy for the user . . . and its attractive price—you now have the backing of National Advertising to Hospital Buyers . . . featuring a real Merchandising Plan that CLICKS!

Think of being able to GIVE Hospitals a modern, highly practical Dispenser—selling to users for \$25.00—at no cost to the Hospital or to yourself! That's exactly what you CAN do. You can supply the Dispenser immediately with initial order and guarantee that it will become the hospital's OWN PROPERTY as soon as YOU have delivered a specified minimum quantity of "BUCKEYE" Surgical Liquid Soap.

THIS MEANS "PERMANENT" CUSTOMERS

This exceptional offer is possible because users who get acquainted with "BUCKEYE" Surgical Liquid REMAIN users! "BUCKEYE" S. L. Soap is a combination of vegetable oils—a neutral soap which will not irritate the tenderest skin even with the repeated washings and scrubbings required every day of doctors, nurses and dentists. It contains full 40% anhydrous soap value. Its thick, creamy, abundant lather cleans thoroughly, quickly and gently. Used in the proportion of one to three parts of distilled water—its economy is another outstanding feature.

Be sure to get full information about how you can sell more hospital business with "BUCKEYE."

THE DAVIES-YOUNG SOAP CO., DAYTON, OHIO

Please send full details of your FREE DISPENSER Merchandising Plan on "BUCKEYE" Surgical Liquid Soap.

Name

Address

City and State

Potash Soaps

When Potash Soaps are discussed, thoughts naturally gravitate to CLIFTON. CLIFTON CHEMICAL CO. has made fine potash soaps for more than two decades. Their production runs into millions of pounds annually.

Naturally there must be a reason—Experienced soapmakers,—the same men man the kettles year in and year out. Our formula chief uses his vegetable oils as a painter does his colors, or as a pianist uses his keys—he blends them to give symphonic results.

Each pitfall is studied. For example, many years ago, we noticed that coconut oil and potash sometimes produced a soap with a disagreeable chemical smell. Perfume would not mask it. Our chemist set to work on this problem and found by adding a substance costing a few cents for every 4,000 lbs. of finished product that the particular chemical odor could be eliminated. An infinitesimal cost in money, it is true, but it took ripe experience in soap making to know just what to do.

In every product the experience of CLIFTON chemists sets results. CLIFTON soaps are good soaps—they rank right up with the leaders.

Here are a few potash soaps made by CLIFTON—at reasonable prices due to large production and excellent in quality because of expert formulation.

Oil Soaps
Green Soaps
Pine Cleansers
Liquid Oil Soaps

Coconut Soap Bases
Olive Oil Soap
Lubricant Soap
Hard Oil Soaps
Liquid Soap Base

CLIFTON CHEMICAL CO., INC.
246 FRONT STREET

NEW YORK, N. Y.

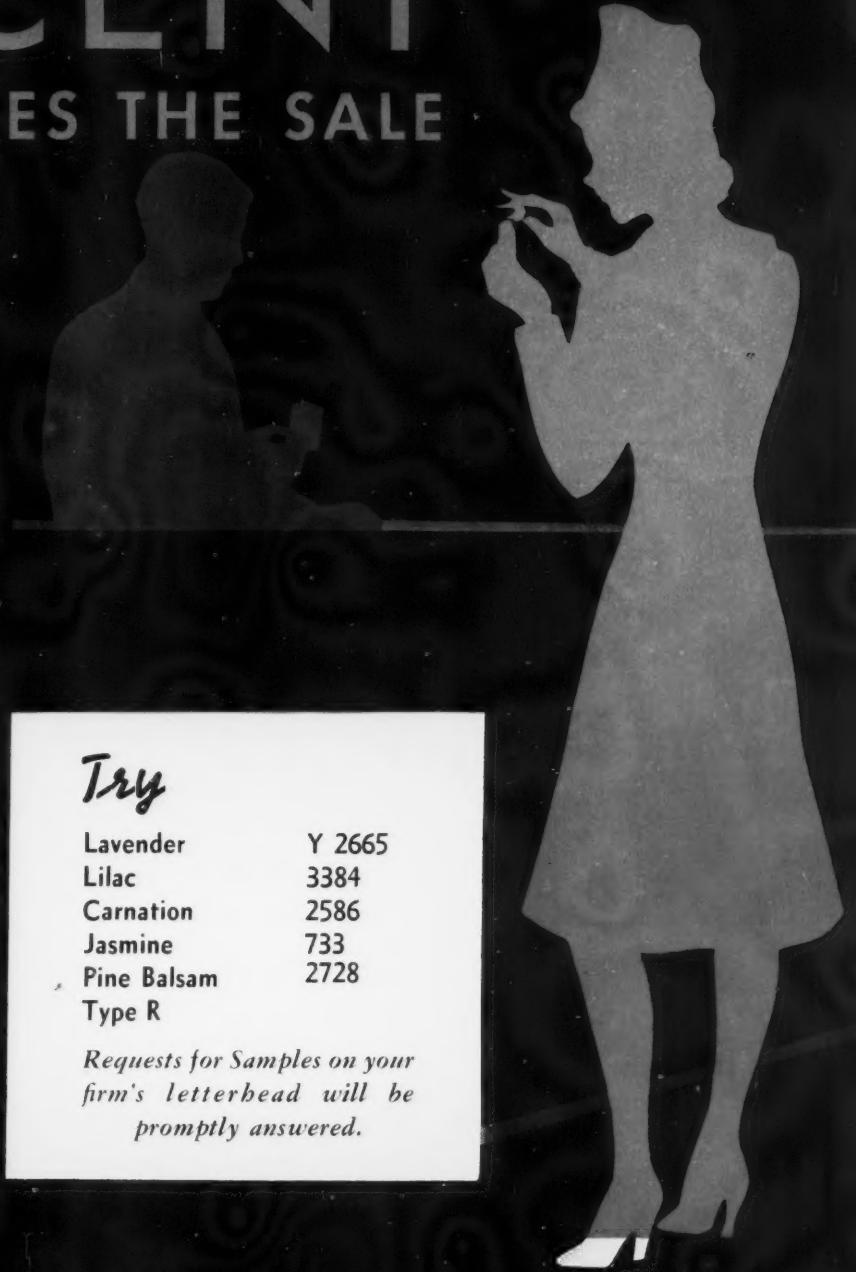
Other Products for Jobbers

Liquid Soap Dispensers
Cresolene Disinfectant
Bar Oil
Pine Scrubs

Deodorizing Sprinklets
Deodorizing Cakes and Blocks
Mopping Varnish
Rubless Wax

Furniture Cream
Insect Killer
Coal Tar Disinfectants
Pine Disinfectant
Theatre Spray

SCENT CLOSES THE SALE



Try

Lavender	Y 2665
Lilac	3384
Carnation	2586
Jasmine	733
Pine Balsam	2728
Type R	

*Requests for Samples on your
firm's letterhead will be
promptly answered.*

AROMATICS DIVISION GENERAL DRUG COMPANY

170 Varick St., New York
9 S. Clinton St., Chicago

Transportation Bldg., Los Angeles
907 Elliott St. W., Windsor, Ont.

IONONES

GERANIOLS

METHYL IONONES

PHENYL ETHYL ALCOHOL

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVENUE, NEW YORK CITY

ARE MAJOR PRODUCERS OF THESE AROMATIC CHEMICALS

FOR THE SOAP INDUSTRY.

WE WILL BE PLEASED TO SUBMIT SAMPLES AT YOUR REQUEST.

Tha
We
differ
cially
prieta
produ
you a
ence
marke

Am
a han

COMP

The odds are better than 1,000 to 1
we have exactly the bottle you need!



That's not a guess—it's fact!

We can deliver more than a thousand different shapes and sizes of bottles specially designed for pharmaceutical, proprietary, cosmetic and general purpose products. And every single bottle offers you all of Owens-Illinois' broad experience with the problems of production, marketing and consumer acceptance.

Among that vast array of designs (only a handful of them shown here), are

dozens that would make a style-right, sales-building package for *your* product. If you market a family of products, you will find related shapes in a range of sizes.

To complete your package and give it individuality, our Packaging Research Laboratory will help you design a distinctive label and suggest an Owens-Illinois closure that tops off the bottle to perfection.

Or if you want a container to be yours and yours alone, we will design a special shape to fit your product...as we have done for thousands of progressive companies.

Call an Owens-Illinois representative. He offers you unequalled facilities in creating the perfect package for your products...from glistening containers to shipping cartons. Owens-Illinois Glass Company, Toledo.

OWENS  **ILLINOIS**
GLASS COMPANY
First in Glass

COMPLETE PACKAGING SERVICE — CONTAINERS — TUMBLERS — CLOSURES — SHIPPING CARTONS

... competition ?

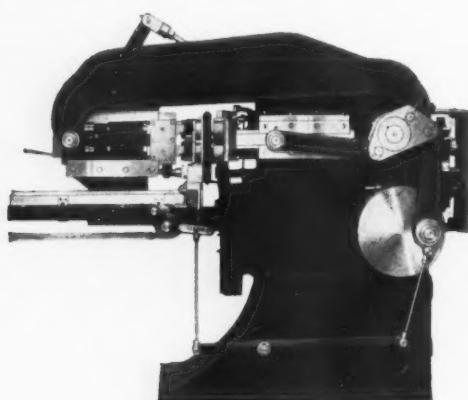
OBSOLETE FACTORY EQUIPMENT CANNOT WHIP IT!

Your worn and obsolete 1929 presses
cannot do acceptable 1939 pressing

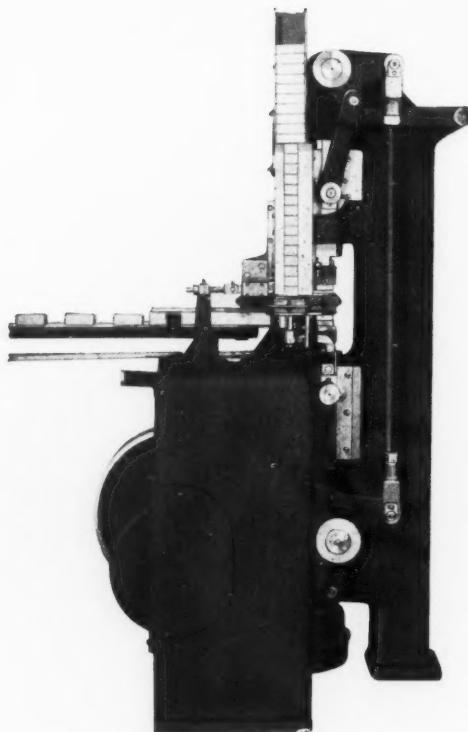
BUT ...

JONES NEW TOGGLE OPERATED PRESSES

can fight competition because they produce perfectly pressed, and therefore more salable cakes, in either toilet or laundry soap. Good looking soap is vitally important in meeting competition, —1940 competition in the soap industry will demand 1940 manufacturing methods.



Type K Laundry Soap Press



Type ET Toilet Soap Press

Jones New Toggle Operated Presses do perfect pressing at high speed. They are run to capacity by one person. They operate without noise or vibration, and pay for themselves while they are still good as new.

Let us tell you more about the practical economies of replacing your old presses now with

JONES TOGGLE OPERATED PRESSES.

R. A. JONES & CO.
Incorporated
P. O. Box 485 Cincinnati, Ohio

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles.
It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

WITH the first flush of war-time demand having quieted down, the oil and fat markets have shown a tendency to soften slightly during the past few weeks. With the present upset world markets, however, we do not see how anything resembling a price decline is possible. After all, fat prices are up to-day from levels last summer which represented one of the real low points of several years past. The complexion of the oil markets can change very quickly, and too much reliance cannot be placed in day by day fluctuations as indicative of any long term trend.



JUST how heavy soap shipments have been over the past four or five months is revealed by the figures recently issued by the Association of American Soap and Glycerine Producers. For the third quarter of 1939, reported soap sales were almost twenty-five per cent above those for the second quarter of the year, and thirty-one per cent above the quarterly average for the four preceding years. In fact, it was the largest quarter of any year since 1935.

The belief that all of this increased tonnage is not going directly into consumption is only natural. Buyers of almost every commodity have increased inventories to as great an extent as possible as partial insurance against future shortages and price advances. But, although some part of this increase may be held in warehouses, there is no doubt but that actual soap consumption, particularly in industrial channels, has increased since September first. Soap consumption, averaged over

the years, has a habit of following in a general way,—but with a much flatter pattern to its chart,—the broad rises and falls in industrial activity.

In the household soap market, larger payrolls all over the country are undoubtedly making themselves felt in actual soap consumption just as they have in the past. However, the general extent of this increase in all probability will eventually be shown to be not as great as that for most other consumer goods. And on downswings, past experience has shown that much the same is true. We have only to recall that when a few years back general industrial activity dropped to forty per cent or less, soap manufacture never fell below eighty per cent or thereabouts.



HAVING cream packed in containers which it considers misleading has been seized by the Food and Drug Administration. The seizure is extremely significant in that it has been made under the Food, Drug and Cosmetic Act, and that accordingly, shaving soap is classified not as a soap, but as a cosmetic. The reason for the seizure was apparently the over-size cartons in which the tubes were packaged. Where these are unnecessarily large to accommodate the tube, they are held to be deceptive by the F.D.A.

As in the case of soap shampoos, the Administration is evidently determined to classify shave creams as cosmetics whether they are composed wholly of soap or not. It is on this point where soap manufacturers, many of whom manufacture shave creams and shampoos wholly of sapona-

ceous materials, disagree sharply. They contend, and quite rightfully so, that where a product is a soap and used only for soap purposes, and where medicinal or cosmetic claims are not made for it, that such product does not come under the Food, Drug and Cosmetic Act, and that the Administration has no authority for classifying it under the act. Vigorous opposition will undoubtedly continue to arise against any such classification.



A REQUIREMENT for marking every bar of soap with its net weight as delivered to the consumer has been brought up periodically in this state and that for a number of years past. For one reason or another, the idea has been rejected in the past, mostly because the character of soap itself makes it impractical. Now, the same proposal has arisen in New York State, and if adopted there, may spread to other states.

The fact that all soap contains varying amounts of water, inherent in the character of the product, which makes such marking with any degree of accuracy well nigh impossible, arises to confound the proposers of such a regulation. Furthermore, there is no crying need for any such regulation. The low prices at which even the best toilet and laundry soaps are sold today make such proposed markings somewhat ridiculous. There is very little deception in the marketing of soaps,—practically none in fact,—making such marking quite unnecessary.

If we were to look back into this idea, we feel certain that we should find someone behind it who knows little or nothing about soap, its properties, or its packaging and marketing. Maybe it might be suggested to this sponsor of the plan that all soap be sold in hermetically sealed containers, possibly tin, glass, or gold plated,—and that then a positive figure on net weight as delivered to the consumer could be guaranteed. For we all know that seldom do the sponsors of such plans consider the

price for value of the commodity in question. The proposal has no more merit from any angle today than it had five years ago, and common sense tells us that it should be dropped.



AT A recent National Conference on Labor Legislation held in Washington, a continuation of pressure to extend the scope of labor laws was noted. The recommendation that any state labor-hour legislation should take in so-called outside salesmen, and also professional people such as chemists, entomologists, lawyers, and the like, was made. These ideas were to be embodied in a "model" state labor law. That they are sharply at variance with the Federal Law does not seem to matter. The object is quite apparently to restrict the hours of labor of every worker irrespective of his job or the feasibility of the plan.

We wonder just how much the labor leaders and administrators who make these proposals know about the actual work of a road salesman, or a chemist, or other person engaged in scientific work. Probably most of them know nothing first hand. After spending most of their years on the public payroll where few work too hard,—political appointees with rare exceptions,—how could they? Just how many of them have ever held a job as an "outside salesman?"

In the case of chemists and others doing routine laboratory work, there are not the same obstacles as crop up in the case of traveling men. From our own experience and from a discussion of this subject with a dozen or more salesmen, we conclude that it simply is not workable. The people who would not make it work would be,—not the employers,—but the salesmen themselves. For after all, they have goods to sell and jobs to hold, and law or no law, their primary interest is in these two things. To attempt of regulation would require a private watchman for every salesmen in the country.



RANCIDITY PREVENTION

Its importance in the face of a European fat shortage,—and the possibilities of antioxidants as developed chiefly in the rubber industry

By PAUL I. SMITH

ACED with a possible eventual shortage of oils and fats for soap manufacture due to the exigencies of the war in Europe, practical methods of preventing rancidity and conserving vital supplies must now be given more serious consideration by manufacturers. It has to be admitted that a number of important concerns have until the present time of international emergency regarded efforts to prevent rancidity with little more than academic interest. This was, of course, quite reasonable in view of the fact that uncertain economic conditions have been dead against the building-up of any surplus of stock, and with the tendency to purchase

minimum instead of maximum requirements, there has been no need to take any precautions to prevent deterioration of the oil before it is pumped to the soap kettle.

The situation is now entirely different as not only will companies make every effort to accumulate a useful stock of oils and fats to face a possible shortage or severe hardening of price, but they may, in the temporary absence of their regular supplies, be forced to take on off-grade consignments or different types of stock which may not be as stable as those they are generally accustomed to handle. In both cases the need for special precautionary treatment of the oil to prevent rancidity

or minimize the effects of deterioration already taken place becomes of first rate importance.

Before surveying the field of antioxidants, it is useful to preface such a review with a brief analysis of the known factors contributing to the deterioration of fats. It is not possible to ascribe rancidity to any one change, but it would be correct to generalize and say that it is primarily due to the breakdown of certain highly complex molecules into relatively simple bodies. This breakdown is not due to any single agency, but is the result of several forces. Oxidation undoubtedly plays a most important part in rancidity, but it would be erroneous to attribute the deteriora-

tion of oils and fats entirely to this one factor. Changes brought about as the direct and indirect result of bacterial and enzymic action are of importance. C. C. Price states that the nitrogenous material which is necessary for the propagation of lipolytic or fat-splitting bacteria is present in crude oil, but in the absence of nitrogenous material in the refined oil, the fat-splitting action is probably due to an enzyme produced by the bacteria. Such enzymes are sometimes quite resistant to heat. Mayne R. Coe suggests that rancidity is due to a disrupted photosynthesis in vegetable oils and the photosensitizing action of haemoglobin or other animal pigments in animal fats. Nascent hydrogen liberated by the photosensitizer unites with molecular oxygen to form loosely combined hydrogen peroxide. This itself links up with the unsaturated bond of triglyceride to form a glyceride peroxide. This in turn splits into an aldehyde and forms the rancid compound.

What is of paramount practical importance to the soaper is that oils and fats differ widely in their resistance to rancidity. In the case of all animal fats, it is generally accepted that these tend to hydrolyze when in contact with tissue, whereas vegetable oils differ widely in this respect. Price points out that cottonseed oil, when kept in the dry condition, is not adversely affected by the presence of cell tissue, but palm oil and olive oil suffer heavy decomposition, and soya bean oils on exposure to air absorb oxygen and take on the character of semi-drying oils.

Apart from the presence of cell tissue in the oils and fats, their deterioration is, to an undetermined degree, due to the actual constitution or structure, that is, the percentage of free fatty acids present and the presence of so-called inhibitors which tend to lengthen the induction period of the stock by preventing oxidation. The presence of moisture and metallic impurities in the fats tends to shorten the induction period by rendering negative the useful action of natural inhibitors. When metals, such as iron, are dissolved in the fats this is in-

evitably accompanied by a drop in the iodine number due to absorption of oxygen. Exposure to light is also of importance, and although it is not generally agreed as to the influence of ultra-violet light, there is little doubt that it does exercise a catalytic action and thus help to accelerate decomposition.

The addition of antioxidants to oils and fats in storage is by far the simplest and most satisfactory precaution that can be taken. The difficulty, however, lies not so much in the search for likely compounds, but the choice of an antioxidant to suit the particular oil or fat in question. For conveniences sake antioxidants may be roughly divided into two main groups:—natural and synthetic, the former being of primary interest for food fats, such as lard, hydrogenated cottonseed oil, etc. The natural agents used are not as a general rule as effective in small concentrations as the synthetic bodies and mainly consist of soybean flour, lecithin, purified gossypol from cottonseed, etc. U. S. Patent No. 2,097,252, claims that edible fats can be rendered immune to rancidity by the addition of 5 per cent soybean flour. This amount seems very high in view of the fact that some of the phenolic inhibitors afford good protection when present in only the most minute quantities, an average percentage for one group of antioxidants being 0.01 to 0.5 per cent.

A most interesting addition to the natural antioxidants is moderately roasted cacao-bean shell or moderately roasted cacao-bean. The patent covering the preparation and use of this compound is B. P. No. 492,714 taken out by the British Association of Research for Cocoa, Chocolate, Sugar, Confectionery and Jam Trades. They state that preliminary de-fatting by extraction is desirable. Incidentally cacao-bean shell is also recommended as a rubber antioxidant. Alternatively an antioxidant containing extract is obtained from the moderately roasted bean or shell by an evaporable solvent, e. g. water at 60° C. to 90°, the extract being incorporated in the material. In pre-

paring an aqueous extract the defatted moderately roasted bean or shell is preferably ground, and after filtration the extract is concentrated to a syrup or completely dried by spraying or in vacuo. One per cent of the dry extract may be mixed with the rubber as a preservative, although considerably less than this amount is efficacious as additive to prevent rancidity.

Obviously the attention of soapers is focused on the synthetic antioxidants which can be used in minute quantities. The best known are the phenolic agents. According to L. A. Hamilton and H. S. Olcott, experiments with antioxidants indicate that phenolic inhibitors and inhibitory cause no change subsequent to the end of the induction period, that they exert their effect solely by inhibiting the formation of the initial active moloxide, and that they are entirely destroyed before the start of rapid oxidation which characterizes the end of the induction period.

Hydroxydiphenyls or dinaphthyls whose aryl groups are directly connected, exercise, states a German authority, a protective action in amounts of 0.001 to 0.1 per cent and more effective than substances such as hydroquinone α and β -naphthol and guaiacol. Another group of products capable of exerting high antioxidant properties are the aromatic amines or aminophenols, such as *p*-aminophenol which are claimed to be effective in concentrations of 0.01 to 0.5 per cent. Unsaturated polybasic aliphatic acids; maleic, fumaric, aconitic, citraconic and itaconic acids as well as their salts and esters are known to be effective and some of these have been used in the industry for several years. Furfural compounds, particularly furfuramide is also used and some of the furans are receiving consideration.

Recent attention has been devoted to the use of some of the lesser known antioxidants used in the rubber industry and these appear to have a promising future in the oil and soap industries. It will, of course, be realized that a number of the agents used as inhibitors for oils and

fats during the last five years are well known as rubber antioxidants. Such chemicals as hydroquinone, p-toluidine, pyrocatechin, resorcinol, p-aminophenol, benzidine, diphenylguanidine are familiar in varying degrees to both rubber and oil technologists. The usefulness of a rubber antioxidant is not determined by its protective action alone, but by its effect on the oil and soap as some of the compounds, being unstable, are liable to decompose and form colored bodies. It should also be remembered that some of the rubber antioxidants are decomposed in the presence of water and therefore fats with a high moisture content are potentially dangerous. The only really effective method of trying out the usefulness or otherwise of rubber antioxidants for preventing rancidity is to carry out artificial aging tests, involving oxygen, elevated temperatures and darkness.

In general it may be said that recent work on rubber antioxidants has centered largely around the phenylnaphthylamines which are now very well known to rubber technologists. The Annual Report of the Progress of Rubber Technology, Vol. 1, 1937, published by the Institution of the Rubber Industry, states that either simple derivatives have been made such as morpholyl- or piperidyl-phenyl group in place of the unsubstituted phenyl-group (U. S. P. No. 2,067,978) or the introduction into the phenyl group of an aliphatic secondary amino group (Canadian Pat. No. 363,698) or the straight phenylnaphthylamines have been used in admixture with other antioxidants such as diphenyl-paraphenylene diamine.

The use of 4,4 dialkoxy-N-alkyldiphenylamines which may carry one or more methyl substitutes in the rings has been claimed by Imperial Chemical Industries and the Wingfoot Corp. have patented the use of hydroxy-diphenylamines. These compounds have valuable rancidity retarding properties, as well as a number of others, such as the N, N. diaryl arylene diamines, benzidine, etc. Amongst the latest antioxidants used in the rubber industry are the

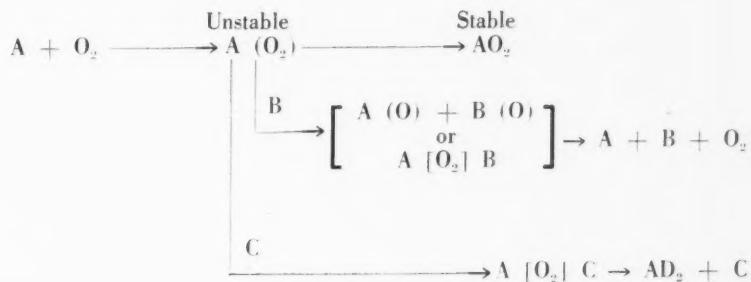
condensation products of acetone with aminodiphenyl covered by the Monsanto Chemical Company and the condensation product of the aliphatic ketone with a phenol treated with the aromatic amine (Goodrich Company, U. S. No. 2,061,779). Particularly interesting are the potentialities of the non-staining rubber antioxidants such as the condensation products of dimethylphenol with formaldehyde and a secondary amine and the condensation products of styrene with phenols.

IT IS useful at this stage to consider briefly the theory of control of rubber by means of antioxidants or anti-oxygens as they are often called. The classical theory, still widely held, is that proposed by Moureu and Dufraisse, which was well described by J. T. Blake and P. L. Bruce in a paper on "Effect of Light on Unvulcanized Rubber" read at the Rubber Technology Conference, London, May, 1938. The normal course of oxidation results in the formation of an unstable peroxide of the substance being oxidized (A) which is in turn transformed into a stable oxide. If a negative catalyst such as an anti-oxygen (B) is present, chemical combination with the unstable oxide takes place, and the product decomposes into the original substances, A, B, and free oxygen. If, on the other hand, a positive catalyst (C) is present it combines with the unstable oxide, which is converted to the stable oxide, with regeneration of the positive catalyst.

The above explanation is particularly interesting in view of its similarity in some respect to the current theory of the mechanism of action in the case of antioxidants in fats

and oils. One theory, which is accepted by many chemists, is that the additive is itself oxidized by the active peroxide formed, which is thus reduced and so rendered ineffective. Ralph G. Harry, describes very aptly the alternative theory of the part played by antioxidant. This assumes that a molecule of oxygen combines with a molecule of fatty substance with the liberation of energy, which is passed on from molecule to molecule down the chain. The ultimate length of chain effected will depend on the efficiency of this transfer and the absence of substances which might impede or inhibit it. On colliding with an antioxidant it is assumed that the energy fails to be passed on. The chain theory whereby autoxidation proceeds via the activation of the molecules of the fats offers, what is considered by P. W. Tainsh, Chief Chemist of Lever Bros. and Unilever Ltd., a partial explanation.

During recent months some attention has been given to the claims of phosphoric compounds, apart, of course, from the water-soluble pyrophosphoric acid, particularly the esters of glycerin with phosphoric and higher fatty acids. A. K. Epstein and B. R. Harris (U. S. Pat. No. 2,075,806) claim that 0.5 per cent of an unneutralized or partly neutralized phosphoric ester of a substance of the type of glycol, polyglycols or polyglycerols wherein at least one OH has (preferably) been replaced by a fatty acid radical of relatively high molecular weight, such as mono-stearylidethylene glycol, or the product obtained by the re-esterification of natural fats with glycerol is effective as an antioxidant.



ABRASIVES—

Their use in soaps and scouring powders, - their occurrence and characteristics

ABRASIVES for use in soaps and scouring powders vary considerably in hardness on Mohr's scale, from 1 to 6.5 or more and mesh number from 40 to 200 according to the particular requirements of the soap, paste or powder. Thus, while a mesh of 40 to 80 may be very suitable for manufacturing a scouring powder for tile, ceramic and terazzo floors, it would be quite useless for fine marble, which requires a scratchless abrasive of 200 mesh. Apart, however, from the actual hardness and size of particles, there is their shape to consider. Angular particles are naturally excessively abrasive and while essential for certain applications where a high degree of heavy cleaning is required, they must be avoided for others where a very delicate abrasive action is needed. In the case of silica, the sharp crystals of irregular jagged shape are obviously able to exercise a very decided abrasive or cutting action on the surface. On the other hand, the bead-like particles of the common clays have a smooth and very uniform wearing action.

A factor of very considerable importance to the manufacturer is the ability of the abrasive to give the desired bulk to the cleaning preparations, which may contain as much as 80-85 per cent mixed abrasives. The bulking powers of the abrasive depend on the actual size of the particles and the degree of aggregation.

Associated with the ability of the abrasives to give the required bulk, there is also the question of their tendency to settle out of soaps, such as mechanics hand pastes, etc. Some abrasives, particularly ground silica, are liable to settle out fairly easily unless special precautions are taken to keep them in suspension. A large number of additives supposed to prevent settling out have been recommended from time to time. These include proteins, such as glue, gelatine, albumen, etc., carbohydrates of various kinds, glycerine, petrolatum, sodium alginate, sodium silicate, tri-sodium phosphate and bentonite, colloidal kaolin, etc. The last named clays are particularly useful and are being used to an increasing extent.

The question of purity of the abrasive is also a factor of importance. Some of the cheap clays may contain as much as 1-1.5 per cent iron oxide, and pumice is not always free of iron. It should be realized that metallic impurities, especially iron, are liable to cause rapid discoloration of the soap and render it unsalable. All abrasive agents should be analyzed before being purchased

in bulk. Chemical purity, while not so obviously necessary as a uniform mesh number, is, nevertheless, of importance.

Included among the abrasives used in the soap industry are pumice and pumicite, feldspar, diatomaceous earth, talc, silica (Tripoli), bentonite and the various clays, chalk, powdered or dust marble, and sawdust. These abrasives are very frequently used in pairs, or sometimes three or more are used together to achieve special results. For instance, colloidal clay is often used in conjunction with diatomaceous earth, talc, etc., as it helps materially to keep them in suspension and also tones down any grittiness of the cleaning compound. Choice of abrasive is finally influenced by the price factor, and it is a common practice of some manufacturers to change the abrasive content of their products from time to time according to price fluctuations. Thus sometimes a large percentage of ground silica is present, and at other times this may be cut down and sawdust, wood pulp, sand, marble dust, etc., added to reduce costs. This is, of course, a practice which cannot be recommended.

IN THE words of the geologist, pumice is a "cellular, glassy, usually rhyolitic lava, made porous by the expansion of steam and gases escaping from the molten magma." A simpler, although possibly less accurate description is that it is an igneous rock or one that has been brought to the surface of the earth as molten lava and afterwards rapidly cooled and hardened. The rate and general conditions of cooling naturally influence the physical characteristics of the stone which has a structure or texture that is unique in comparison with rocks that have cooled slowly and contain a large percentage of crystalline quartz, etc. The well known vesicular texture of pumice is due to the presence of an infinite number of tiny trapped bubbles of gas in the hardened lava. To sum up quite briefly, it may be said that the value of pumice as an abrasive for the detergent industry depends largely on these two main characteristics:—freedom from hard and cutting quartz crystals and a vesicular or porous texture.

The finest pumice is obtained from the island of Lipari off the Straits of Messina, Italy, and is valued on account of its uniform structure and comparative freedom from hard quartz crystals. The best pumice is perfectly inert, light in weight and free from metallic impurities liable to cause trouble in soap manufacture. A well-known American importer of pumice from Lipari, states that "pumice must be very vesicular in texture, or coarsely cellular, somewhat like the finest quality toilet sponge. The vesicles or cavities formed by the bubbles of escaping gas must be abundant and very closely crowded together. In fact, they are microscopic in size and enormous in number. Second, pumice must contain no quartz crystals, in fact, no crystals of any kind. Third, it must be free from organic matter, and white in color. Fourth, it must be extremely light in weight, of a fairly uniform chemical composition that precludes the presence of iron. Finally, it must not only be water insoluble, but pure water passing over

it must have neither basic nor acidic reaction to any indicator."

In other words, good pumice is chemically inert for practical purposes. The large lumps of pumice are crushed and dried, then sieved. A large number of different meshes are used according to requirements, naturally the finer the mesh number the smoother the polishing medium. A coarse mesh suitable only for gritty mechanics hand paste would be 40-60 and a fine mesh for the best scouring powder to be used for cleaning enamel, aluminum and silver would be 200. U. S. Specification for hand grit paste soap specify that the insoluble siliceous matter shall consist entirely of volcanic ash (pumicite) or powdered pumice, or a mixture thereof and shall conform to the following fineness requirements:—

Retained on	Minim-	Maxi-
	%	%
No. 60 sieve.....	10	20
No. 80 sieve.....	30	45
No. 100 sieve.....	35	55
No. 200 sieve.....	60	—

Instead of pumice, use is often made of pumicite which is a volcanic ash or dust consisting of small sharp grains of glass, formed by volcanic explosions. This is found in large quantities in Nebraska and Kansas, also the western states, in Alaska, Canada, Mexico and New Zealand. According to Bayley "Non-Metallic Mineral Products," the material occurs in beds from a few inches to 100 feet thick, usually under cover of loess. Some deposits consist solely of glass particles, but in others there is an admixture of silt. The purer material was deposited from the air, and the less pure was deposited and transported from water. Both pumicite and pumice have a hardness of six and possess almost identical physical and chemical characteristics. Pumicite is generally pre-



ferred to ground pumice for abrasive soaps, but this preference is mainly influenced by a lower price.

DIATOMACEOUS silica, infusorial earth or kieselguhr is derived from microscopic single-celled plants known as diatoms. The siliceous skeletons of the many thousands of already classified diatoms (10,000 identified so far) form deposits of so-called diatomaceous silica which occurs in many different parts of the world. Important deposits of this earth are found in Germany, Algeria, Spain, Northern Ireland and France, but the largest and purest deposits are at Lompoc, California. According to F. G. Salmon in a paper entitled "Diatomaceous Silica as Applied to Filtration Problems," "the deposit at Lompoc, which is of marine origin was laid down during the Miocene period from two to five million years ago. The deposit covers about five square miles and the depth of the formation of stratified diatomaceous earth is about 1400 feet. The immensity of this deposit will be appreciated by the fact that there is more than 100 million tons of good quality material to be worked." Apparently the particular combination of spicular and disc-shaped diatoms associated with this deposit is ideal from a filtration point of view and this peculiar crystalline structure also renders the earth very suitable as a mild abrasive. Diatomaceous earth with a hardness of 1-1.5 is definitely a mild form of abrasive and is specially suitable for use as a filler or where the actual abrasive properties of the cleaning compound must be very delicate.

Tripoli is a relatively harsh abrasive in the same category as pumice and pumicite and when examined under the microscope shows up as hexagonal prisms and pyramids. It contains 98 per cent silica and according to geologists is produced by the weathering of chert or siliceous limestone. The most important deposits are at Stella, Missouri, Illinois, Oklahoma and Tennessee. W. S. Bayley says that "since the Missouri tripoli is composed of par-

ticles of spongy, globular clusters of distinctly doubly refracting quartz, whereas the Illinois material is composed of clusters of crypto-crystalline silica, the latter is often known in the trade as amorphous silica."

Talc or soapstone is a hydrous magnesium silicate. It is greenish to white in color with a characteristic platy structure. It has a hardness of 1-1.35 and occurs in many different parts of the world. There are large deposits in the United States, particularly on the east side of the Appalachian Mountains from Vermont to Georgia and also California. Supplies are also available from Canada and Europe.

A rather harsh but widely used abrasive is feldspar, hardness 6-6.5. This is a complex silicate and is mined with mica and quartz in considerable quantities in America and Europe. There are a number of different forms of feldspar, such as microline, albite, etc., found in North Carolina, Maine, New Hampshire, New York, Connecticut. Large tonnages of it go into coarse scouring powders.

THE clays vary a great deal in character but are naturally very mild abrasives with a hardness of 1-3. China clay is, perhaps, the best known representative of the clays and possesses an amorphous or microcrystalline structure with a chemical composition approximating to that of the hydrated aluminium silicate, mixed with a small proportion of quartz and muscovite (mica). High grade china clays are very white in color, but inferior qualities (principally those containing 1 per cent or more of iron oxide) are often cream in color.

The finest commercial grades of china clay, or kaolin, contain some 40 per cent or more of particles having diameters of less than 0.1μ , the remaining 60 per cent being fairly evenly distributed between this value and a maximum particle diameter of the order of 10μ . Important deposits of clay occur in Devon, England, South Germany, and other parts of Europe, etc., but the best known is

the English variety. Although the abrasive action of china clay is slight, it is a definitely useful additive for soap as it tends to lower the surface tension of water to a greater extent than soap itself. Colloidal kaolin, like soap, possesses the property of adsorbing other material to a marked degree, and when properly incorporated with soap actually increases the lathering and detergent properties of the latter, due to the formation of a homogeneous colloidal mixture. It is interesting to note that at the present time Germany is making lavish use of various clays, Fullers earth, kaolin, etc., as fillers and substitutes for soap.

Bentonite has received a good deal of attention from soap technologists and it is now recognized that it is a very effective detergent on account of its highly developed colloidal properties. Considerable quantities of this clay obtained from Black Hills, and other parts of the U. S., are now being used as emulsifying agents for polishes, cleaning preparations, insecticides, etc. Its abrasive action is very slight, but it is definitely a very useful ingredient of abrasive cleaning compounds as it helps to give body, improves the emulsification and helps very materially to keep particles from settling out of liquid media.

CHALK is a most important mild abrasive and differs considerably in abrasive powers according to its origin. Whiting is, perhaps, the best known form of calcium carbonate used in cleaning compounds and consists of natural chalk which has been washed and elutriated, then settled and dried. Waterworks chalks are obtained by the treatment of hard water with lime and consist of large particles. Other forms of chalk consist of ground spar, a very gritty abrasive consisting mostly of ground crystalline calc spar and French chalk, which is not calcium carbonate, but a form of talc without any abrasive action, although frequently present in abrasive cleaners.

(Turn to Page 70)

The FARM SOAP MARKET

FIVE bars of laundry soap per month are consumed by the average mid-west farm family along with 4.22 cakes of toilet soap, according to a recent survey of 7,209 farms and homes made by Midwest Farm Papers. A trifle less than one can of scouring powder, one-quarter can of drain and bowl cleaner, and one-half package of water softener are also used. During that same monthly period, the average farm family in the Midwest, uses 1.13 packages of granules, flakes, chips or beads for ordinary laundry purposes, .71 packages per month for fine fabrics, and .81 packages for dishes.

Of 175 brands of toilet soap being used in the Midwest farm area, six had cornered 82.9 per cent of the market, leaving the remaining 17 per cent to be scrambled for among 169 brands. The four leading brands were closely grouped, having consumer preferences of 19.9 per cent, 19.0 per cent, 16.6 per cent and 14.3 per cent respectively. The fifth and sixth brands in popularity showed a consumer preference of 8.3 per cent and 4.8 per cent.

Although 115 brands of packaged laundry soaps were reported being used in this area, two had gained 72.3 per cent of the market, number one brand being preferred by 49.7 per cent and brand number two by 22.6 per cent. This left only 27.7 per cent of the market for the other 113 brands.

The leading brand of packaged soap for fine fabrics made a runaway against the other 63 brands. This leader had a remarkable popularity amounting to 64.2 per cent of the market, while the second and third brands in popularity were preferred by 15.9 and 11.4 per cent of the market, respectively. The three leading brands, among them, accounted for 91.5 per cent of the total market.

Each farm buys five bars of laundry soap and 4.22 cakes of toilet soap monthly plus other detergents and cleansers, recent survey shows

The Midwest farm market for packaged soap for dishes, according to the survey, was divided among 132 brands. Of this number, seven accounted for 86.3 per cent of the market, the leading brand having a popularity of 38.7 per cent, the next, 16.7 per cent and the third, 9.2 per cent.

As in other type soaps, the market for bar laundry soaps was dominated by a relatively small number of brands. In this case, eight of 39 brands had 91.7 per cent of the market. The most popular brand having 54.8 per cent and the next 11.4 per cent. From here on, popularity was graded down the line.

With sink and bathtub cleaners, bowl cleaners and drain cleaners, it was the same old story: a large number of brands in competition, with a few dominating the market. The leading brand of sink and bathtub cleaners had 50.7 per cent of the market, the next brand having only 9.7 per cent. The leading bowl cleaner brand was preferred by 60.1 per cent of the market, while the second brand in popularity had only 9.9 per cent. In the drain cleaner market, the spread was even greater; for here, the leading contender commanded 75.3 per cent of the market, and number two brand only 2.6 per cent.

More serious competition prevails among water softeners, with eleven brands dividing 57.2 per cent of the market. Here the first brand was preferred by 21.5 per cent, but

the next ten brands scaled downward from 9.8 to 1.6 per cent.

It was also another story in the tooth paste market as 20 brands accounted for 87.5 per cent of consumer popularity. The four leading were grouped together from 28.8 per cent to 12.4 per cent, while the next 16 brands ranged downward from 1.9 per cent.

In the tooth powder market, seven of 143 brands had 76.7 per cent of the consumer preference; the leader commanding 30.7 per cent, and the next two, 17.7 and 10.2 per cent, respectively.

The leading brand of shaving cream, in the farm market covered by the survey, accounted for 16.3 per cent of shaving cream users, although it was closely pursued by the second place brand with a popularity of 15.4 per cent. Third place was taken by a brand with 12.3 per cent and the next eight brands were grouped together from 5.4 per cent to 2.0 per cent. These eleven brands accounted for 73.0 per cent of the total market.

And finally, an almost unlimited number of brands were found to be used in the shampoo market, 246 to be exact. Of this number, nine brands were preferred by 54.5 per cent of consumers, first place being garnered by a brand with 15.0 per cent preference, second place by one with 14.8 per cent, and the next seven places ranged from 6.7 per cent to 1.9 per cent in consumer preference.

PERFUMING MATERIALS—

THE first shock of war affecting the essential oil market is over, but the soapmaker will do well to look back over the past few months to get a clearer idea of just where he stands. Naturally, and as might be expected, prices in the essential oil market advanced immediately following the outbreak of the European war,—some sharply, and others gradually. Although shortage of stocks either here or abroad may have influenced the advance in some cases, it may be safely assumed that the typical rise in freight rates and war risk insurance was, and still is, the determining factor affecting these prices.

On a percentage basis, the lower priced oils have been most seriously affected. A ten-cent increase in freight rates may be comparatively small when tacked onto a \$1 oil, but

What effects of war conditions on production and supplies of essential oils, their derivatives,— and on perfuming costs generally?

when added to a 50-cent per pound oil, it becomes a substantial increase. Difficulty has also been found in shipping essential oils regardless of insurance, etc., as cargo space is definitely limited. As to future prices, it is difficult to draw conclusions, but as long as the above factors must be contended with, the soapmaker must expect a day-to-day fluctuation in the price of the greater part of his essential oil raw materials.

On the average, price advances in this market have not been very great, and sharp rises on the part of some oils must not be considered typical of the entire market. In fact, some

oils have dropped in price since the outbreak of the war in early September. In many cases, almost the entire rise that has taken place thus far, went into effect during the first month of the war when spot deliveries were at a premium.

Immediately after war was declared many sellers virtually withdrew from general offerings either of goods out of local stocks or of merchandise then to arrive. Few dealers were willing to take business from new buyers, although regular customers were cared for at fair prices, with sales being confined to normal requirements. Such measures were protective, as the outlook in the market was not very encouraging. War risk rates affecting shipments in American ships jumped abruptly and merchandise forwarded in foreign bottoms was affected even more sharply. Insurance, at that time, was refused on goods to be transported on Italian or German vessels. For shipments from the United Kingdom to the United States, insurance rates were 1 per cent as of August 28, and immediately moved upward to 3 per cent on September 1. By the 12th of the month these insurance rates had



Crude geranium distilling equipment in the hills of Reunion Island.



moved up to 7½ per cent for goods carried in British and French ships, 3 per cent for goods carried in American ships and 5 per cent for merchandise carried in other neutral bottoms.

The month of October saw a gradual continuance of the price advances noted in September but at a much slower rate. Quieter conditions prevailed as far as new business was concerned, with consumers showing an inclination to delay purchasing operations pending further developments in the then hazy future. Despite this slowing down in demand, the inquiry for essential oils, on the whole, continued good. Also characterizing the essential oil market at this time was the flooding of dealers with demands originating in buyers who were new to their books. Inability to get full quantities from regular sources of supply had turned many buyers toward suppliers with whom they had not been doing business regularly.

Curtailment of demand continued during the past month of November and seemed to be spreading

Hand labor, an important factor in the harvesting of lavender, is likely to be seriously curtailed in supply by war demands.

rather thoroughly throughout the list. Competition was more in evidence and the tendency was toward moderate shading of quotations in line with the narrowing of consumer outlets and the realization that replacements were becoming available in reasonable amounts. There was no real weakening of the general position of most products, however, as the decline in sales volume came to a market in which heavy selling had severely reduced stocks. An encouraging note was sounded though with the announcement of a reduction in war insurance rates on goods brought across the Atlantic in neutral bottoms.

Aromatic chemicals, derived from the essential oils themselves, can be expected to rise in price sometime in the near future, although only small advances have taken place thus far. Typical of these aromatics are geraniol, obtained from both Java and Ceylon citronella oil and palmarosa oil; citronellol, occurring

in palmarosa and citronella oils; and thymol, occurring in thyme oil. It is only logical to expect that as these essential oils advance in price, the aromatic chemicals derived from them must also advance.

As yet, manufacturers of synthetics have not announced any but minor changes in the price of these materials, and old prices will probably continue as long as stocks hold out. It is to be expected, however, that the increased cost of essential oils will turn the consumer more and more to the synthetic materials with a corresponding depletion of those stocks. When stocks are exhausted, prices of synthetics will be determined by replacement costs which are frequently difficult to estimate. Synthetic materials, made from the coal tar distillates, will reflect any increased cost in these basic derivatives of coal tar. Domestic and foreign demand for explosives such as T.N.T., picric acid, etc., would have a tendency towards increasing the cost of coal tar distillates which would, in turn, increase the cost of other products made from the distillates. There need be no fear of a shortage of syn-

theretics, however, as the American synthetic aromatic chemical industry has been preparing itself for many years, for just such an occasion as this.

TURNING from general market trends to a consideration of the individual natural oils, we find that the situation in the anise oil market prior to the start of the European war was very favorable to users of this oil. Although difficulty was being had in getting this material out of China, stocks in the United States were much in excess of the demand at that time. Quotations on anise oil had dropped to 63 to 67 cents per pound, and the month of September went by with only a small increase in the price of this oil. However, a sharp advance took place in early October when a price level of 85 to 90 cents per pound was reached. This was maintained well into November until competition among essential oil dealers and a slackening in demand resulted in a reduction of spot quotations to 78 to 83 cents per pound. The reason for the drop may exist in the fact that Germany, once a large user of this essential oil, is using very little at present. This places the United States in a more favorable position as far as available supplies are concerned. Although deliveries are hard to get from the interior of China, there is a possibility of larger supplies and the price on shipment is almost back to the low point of the year.

Bergamot oil is about 10 per cent higher in price now than in early September, the rise being due principally to the increase in freight rates and insurance to cover war risk. The oil is under the control of the Italian government which, fortunately, has seen fit to maintain a fairly stable price level, even though the crop is reported short.

Although bois de rose oil has shown only a small increase in price over the past few months, it is believed that a more substantial advance may take place in the near future. Several signs point in this

direction: first, the oil at present is scarce and the next crop doesn't come in until February, March and April of 1940, which means the market is now in the tail end of the season; second, the production of this oil is government controlled and producers may raise only a limited amount, and third, bois de rose is being used as a substitute for shiu (shui) oil, which, coming from Japan, has advanced sharply in price. Naturally, bois de rose, is now in greater demand and also commands higher price.

Cassia oil, which has been selling at higher than normal levels since the outbreak of the Sino-Japanese war, moved further up the scale with the outbreak of hostilities in Europe. Quotations reached the level of \$1.30 to \$1.35 per pound at one point. There has been a slight reaction in recent weeks and the market level is now down to \$1.20 to \$1.35 per pound.

The spread in price between Ceylon citronella and Java citronella oil was almost wiped out in September when an advance moved the Java oil to within one cent of the Ceylon, the latter being quoted at 36 cents a pound and Java at 35 cents per pound. This parity was shortlived, however, as sharp advances in Ceylon oil re-established a wide spread. The peak was reached in late October when Java was quoted at 39 cents and Ceylon at 48 to 50 cents per pound. Lack of drums has prevented normal shipment of the Ceylon oil and the arrivals of the Java oil are also uncertain.

Algerian, Bourbon and Turkish geranium oil were all priced at different levels in early September, but the middle of October saw all these oils being quoted on a par, i.e., \$2.75 per pound. This represented a small increase in the price of Algerian and Bourbon and a large increase in the price of the Turkish oil. Since then, however, the latter oil has remained stationary at the \$2.75 level while Algerian and Bourbon quotations have advanced to \$3.25 to \$3.50 per pound. Spot stocks of these oils are at a premium.

Export of the Algerian oil is prohibited at the moment for reasons unknown. How serious the shortage may become, and when the export embargo may be lifted, are problematical.

The outlook in the lavender oil market is not very encouraging although the situation could be much darker. Production is only one-half of normal at present and the size of the new crop is highly uncertain, if there is one at all. Then too, American boats cannot stop at French ports. As a result, this market has been featured by a strong tone and all spot oil is at a premium, although the situation has eased somewhat in the past few weeks. Relief may be found in the use of substitutes, but many of these are also priced fairly high.

Some sort of tree blight has produced a severe shortage of the leaves from which patchouli oil is produced, which coupled with increased freight rates, insurance, etc., has resulted in a substantial advance in the price of this oil. There has been an advance over the past few weeks from the previous figure of \$3.35 per pound to the present quotation at \$4.25 per pound. It is believed that the shortage will become quite acute.

The rosemary oil market has not been seriously affected by the present European war insofar as supplies are concerned, as there is now a choice of primary markets. Users have been getting used to scarcity of rosemary during the two years of the Spanish civil war. It was during that war that the African Mediterranean countries took up the production of the oil, making supplies more dependable. As with any oil selling for less than \$1.00 a pound, however, an increase in freight rates or insurance is a serious factor whose reflection may be seen in a comparatively sharp upward movement of price. Rosemary, originally priced near 55 cents per pound, has gradually moved upward to a new figure of 70 cents per pound.

(Turn to Page 129)

FATTY ACID DISTILLATION

Patent situation held clarified by recent decision in Wilson-Martin versus Hardesty litigation in Delaware Federal Court

THE more or less involved patent situation covering various methods and equipment for the distillation of fatty acids is held by some engineers to have been clarified in part at least by a recent decision in the U. S. Court for the Delaware district. The trend of recent years toward continuous distillation of fatty acids and the use of bubble towers, baffle plates, and other devices has brought some patent disputes among fatty acid producers.

The continuous distillation of fatty acids, as contrasted with the pot-still type or semi-continuous process, has been a recent goal of fatty acid manufacturers and fatty oil refiners. Several new processes for this continuous operation have been developed, both in this country and abroad. Some of these processes utilize the well-known principle of counter-current flow for crude acids and steam through a column-still equipped with baffles or bubble trays, while others avoid the use of the column-still by means of one expedient or another.

An example of a process which does not employ a column still or bubble tower is the Wecker Process, which originated in Germany and which is used in two plants in the U. S. As far as is known, all other United States plants for continuous distillation of fatty acids employ the column still principle. There are at present four such plants, each developed quite independently of the others and each employing different process features.

One such plant, that of the Wilson-Martin Company, Philadelphia, was developed by L. M. Tolman and Stanley Goranflo, in association

with petroleum engineers, who were able to contribute practical ideas from petroleum distillation experience. In connection with the development of the Wilson-Martin continuous fatty acid still, several U. S. Patents were issued, chief of which were the following:

U. S. 1,951,241, to Stanley Goranflo
March 13, 1934
U. S. 1,998,997, to Lucius M. Tolman
April 23, 1935
U. S. 1,998,998, to Lucius M. Tolman
April 23, 1935
U. S. 2,006,491, to Lucius M. Tolman
July 2, 1935
U. S. 2,042,713, to James W. Gray
June 2, 1936

The Goranflo patent is so worded as to blanket the distillation of fatty acids or deodorization of fatty oils in any apparatus utilizing a bubble-tray column as the distilling chamber. The first two Tolman patents contain similar coverage of processes using any type of column still in continuous operation for fatty acid distillation or oil deodorization, without limitation to the bubble-tray type of column. The third Tolman patent covers a special type of combination of a packed tower and a bubble-tray tower, while the Gray patent covers the method of heating the charge which is employed in the Wilson-Martin still.

Before any of these patents were issued, there were held to be three other continuous fatty acid stills built or started in this country which employed bubble-tray distilling columns. One installation was that of the W. C. Hardesty Co. at Dover, Ohio, which was started in the Summer of 1933 and which employed a different principle than that of the Wilson-Martin still, with the excep-

tion that the use of a bubble-tray column was common to both.

In November, 1935 the W. C. Hardesty Co. was sued for infringement of the Goranflo patent and the Tolman patent No. 1,998,997, the suit being filed in Wilmington, Delaware in the name of New Process Fat Refining Corporation, a holding company owning the Tolman and Goranflo patents. The case was tried in early December, 1938, the defendant holding invalidity of the patents and noninfringement. On November 16 of this year, Judge John P. Nields, of the U. S. District Court for the District of Delaware rendered a decision in a broad opinion declaring both the Goranflo patent and the Tolman patent No. 1,998,997 invalid "for want of patentable invention."

The Court cited several prior decisions to support his statement that "The employment of continuous column or bubble stills in fields where they had not been previously used is not invention. The use of a bubble tower in lieu of a less efficient type of still has been held not to amount to invention."

The effect of this decision, if sustained on appeal, will be to nullify attempts to secure exclusive right to the use of column stills in the distillation of fatty acids, the refining of fatty oils by distillation of their contained fatty acids and the deodorization of fatty oils.

W. C. Hardesty Co. claims coverage on its continuous still by U. S. and foreign patents issued and pending. These patents cover special features, but do not cover the use of distilling columns. The Hardesty apparatus was designed by Alan Porter Lee, New York Engineer who is patentee of the features embodied in its construction.



New Products

and

Two specialties for shower bathing are offered by Roycemore Toiletries, Inc., Chicago, —swing bars fitted with suction cups and a larger cake designed to hang about the neck on a handy rope halter.

One of the new Yardley gift boxes for the holiday trade features the "Floating Bath Bowl" designed to float about the bath tub. Companion items are dusting powder and "Lavendomeal," a water softener.



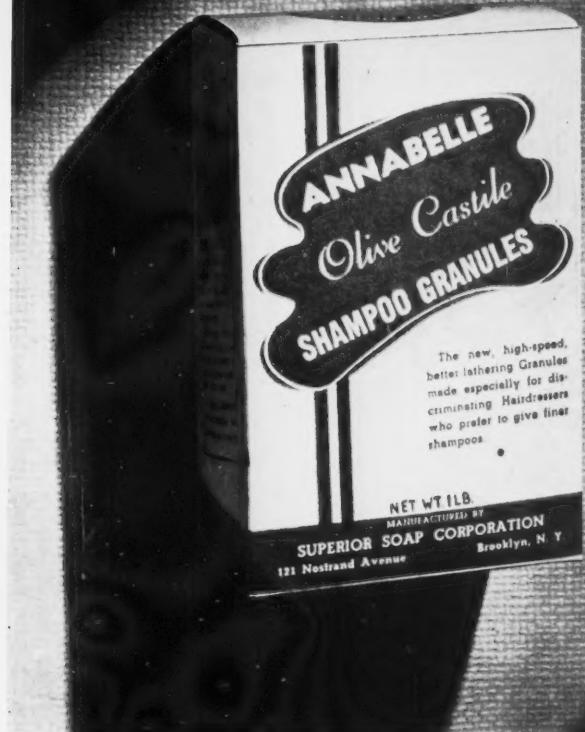
One of the novel new packages in the line of gift soaps of Allen B. Wrisley Co., Chicago, is the "Soap Zoo." Five replicas of soap carvings of monkeys, camels, elephants, etc. are packed together.

Packages



Double-shell metal caps by Armstrong were adopted by Hexol, Inc., San Francisco, for its new bottle of "Hexol" deodorant and disinfectant. The color design is a deep blue, framing a nurse's profile.

Containers for the line of sanitary specialties of James Austin Co., Pittsburgh, have been re-designed by Phoenix. Lithographed caps top off the packages which bear characteristic family resemblances.



A new idea for the beauty shop trade is this one pound package of castile soap granules put up by Superior Soap Corp., Brooklyn. Each individual operator can then keep his own private container.



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News....

Williams Leaves Swift

J. S. Williams, who for six years was associated with Swift & Company's Chicago sales division for Sunbright Cleaner, resigned recently to become vice-president, in charge of sales and advertising, for Chappel Bros., Inc., specialists in dog foods, Rockford, Ill. No changes will be made in the Swift personnel, as a result of the vacancy, according to H. C. Stanton, manager of the soap department.

AGMA Elects Drackett Secy.

H. R. Drackett, Drackett Co., Cincinnati, was elected secretary of the Associated Grocery Manufacturers of America at the association's 31st annual convention at the Waldorf-Astoria Hotel, New York, on Oct. 30, 31 and Nov. 1. Elected to the board of directors for three-year terms were Mark Upson, Procter & Gamble Co., Cincinnati, and C. P. McCormick, McCormick & Co., Baltimore. L. J. Gumpert, B. T. Babbitt, Inc., New York, and O. E. Jones, Swift & Co., Chicago, continue as members of the board.

Sayman Soap Contest

T. M. Sayman Products Co., St. Louis, recently conducted a nationwide contest for promotional ideas by retail salesmen of Sayman soaps. First prize of \$50 was awarded to a retailer who displayed soap among baby supplies, and second prize of \$25 went to a salesman who demonstrated how Sayman soap lathered in hard, cold water.

Ask Soap Duty Reductions

Lower duties on imports of soap into Chile and Uruguay have been asked in briefs filed with the Committee on Reciprocity Information by the Association of American Soap and Glycerine Producers. Trade treaties with these two countries are

now being negotiated. A hearing on the Chilean trade treaty opened in Washington November 27th. The hearing on the Uruguayan treaty will open December 5.

No Name Products Co. Moves

No Name Products Co., cleansers, Milwaukee, has moved to new and larger quarters at 1218 W. Pierce Street.



Walter H. Tuttle, left, has just succeeded George S. Woodward as treasurer of Procter & Gamble Co. Mr. Tuttle had been assistant treasurer, a post now shared by George S. Woodward, Jr. and R. D. Francis.

Dispenser Patent Issued

A patent on dispensers for dishwashing purposes has just been issued to Robert Behrman, Milroy Products, Inc., Philadelphia. The patent, which was applied for in 1936, is said to make the company the only source for dispensers of this type.

P & G Sales Conference

District sales managers, supervisors and superintendents of plants of the company in all parts of the United States will attend the biennial sales conference of Procter & Gamble in Cincinnati on December 19-20. President Richard R. Deupree will speak at the dinner in the closing session.

Cox Succeeds Sharp

A. G. Cox, who has been connected with Swift & Co., Chicago, for the past twenty-three years, was recently named manager of soap sales at the company's Grand Rapids plant.

Mr. Cox was connected with the Chicago office and before that had charge of soap sales in the Philadelphia district. He succeeds Harold Sharp, who joins the Chicago soap department.

Seize Deceptive Packages

Progress in the Food and Drug Administration's drive against deceptive containers was reported by J. O. Clarke, chief of the FDA Chicago field staff, at the recent convention of the Packaging Institute in Chicago. "Already a fairly large number of seizures have been made of slack-filled and deceptive cartons," said Mr. Clarke. "Most of the arrests represent cases where parties involved went to extremes, but, as time goes on, it will be necessary to consider action against containers which do not exhibit violations of the law to the extreme degree."

"While we look at the package through the eyes of the con-

sumer," Clarke continued, "we must also give weight to what might be called engineering difficulties in production of the package. A package may be inherently deceptive due to its shape or the use of unnecessary material in its manufacture. In this category are such items as bottles and jars which employ in their construction a larger amount of glass or other material than is required by good engineering practice to produce a bottle or jar of the required capacity. Here, also are such odd shaped bottles and jars that appear to contain a comparatively large quantity of the commodity when, actually, the amount so contained is spread out or disbursed in such a manner as to create a deceptive appearance."

The Food and Drug Administration has always been willing to comment informally on legality of specific products under the law, Mr. Clarke reminded his hearers and added that the organization is now willing to confer with manufacturers on the legality of proposed new package designs or questions involving proper labeling under new provisions of the law.

Deny Coltman Patent Review

The United States Supreme Court has refused to review a patent controversy between Colgate-Palmolive-Peet Co. and B. W. Coltman over a soap spray process patent. A lower Federal Court held the Coltman patent valid and infringed by the Colgate company, but the Circuit Court of Appeals held seven claims of the divisional patent to be outside of the invention disclosed in the original application, thus making the patent invalid. This was the decision which the Supreme Court refused to review.

New Detergent Powder

Michel Export Co., New York, is manufacturing and distributing from its plant in Paterson, N. J., a new detergent powder known as "Alframine DCA." It is a sulfonation product of a high molecular aldehyde condensate of the aliphatic series, which it is said, may be boiled for

Soapers Exhibit at Hotel Show

SOAP and sanitary chemical manufacturers claimed a large share of interest at the 24th National Hotel Exposition held at the Grand Central Palace, New York, November 13-17. The booths of these exhibitors showed a wide variety of cleaning products and sanitary supplies, with some having novel arrangements stressing the features of their products. Uncle Sam Chemical Co., New York, with L. Kornicker in charge, displayed its entire line of cleaning supplies and sanitary products, while John T. Stanley Co., New York, arranged a novel display consisting of a waterfall of soap suds. Other firms exhibiting at the show included Ellis Davidson Co., New York, showing the "Pest-O-Lator" insecticide sprayer as well as a variety of insect sprays and polishes; Calgon, Inc., Pittsburgh, showing its "Calgonate" products, for the hands,

hours without decomposition. It is claimed that the new detergent may be used with acid or alkaline solution, that it is resistant to hard water, that its foaming capacities and wetting out properties are very high, and that in general the capabilities of "Alframine DCA" are superior to those of fatty alcohol sulfates. Folders containing information about the product, its properties, uses, etc., are available.

Sample "Usa-Foam" at Show

B. & L. Laboratories, Inc., manufacturing chemists, Chicago, occupied space at the annual pre-Christmas trade show of the Chicago Association of Retail Druggists, to present their "Usa-Foam Million Bubble Bath" water softener. Samples were passed out to visitors.

Sterling Soap to Move

Sterling Soap Co., St. Louis, is another among those firms in the soap and sanitary chemical industry who have found it necessary to

dishwashing, etc.; and West Disinfecting Co., Long Island City, N. Y., with a movie on the extermination of rats, stressing use of its rat bait "Rodite." Also having booths were the following: Hild Floor Machine Co., Chicago, which gave demonstrations of the use of its rug cleaning machines; Rustain Products, Inc., New York, with a display of "Rustain," and "Norince," chemical cleaners, and Riddiford Bros., Chicago, who exhibited dish washing compounds, glass clarifiers, and china dips and silver dips. Alkem Products Co., Jersey City, N. J., exhibited its Alkem "Foam Wash," a synthetic detergent; Long Island Soap Co., Brooklyn, showed its products "Alba G" water softener, "Lisco" soap powder and "Clarex" cleanser, besides a group of janitor supplies; and J. B. Ford Sales Co., Wyandotte, Mich., displayed its "Wyandotte" detergents.

move before the first of the year, as a result of plans for a St. Louis river front memorial park. The company has leased a one-story building at 1130 Collins Street.

Richard E. Gardner Dies

Richard Exton Gardner, joint managing director of Yardley & Co., Ltd., London, died suddenly on Oct. 14. He had been connected with the company since 1897, serving as secretary from 1905 to 1925, and in his latest position since 1935. He is brother to Thornton E. Gardner, chairman of the company.

Rifa Elects Kalmbach

Karl J. Kalmbach was recently elected president and general manager of Rifa-New York, Inc., aromatic products, New York. He was formerly vice-president and had charge of the firm's Chicago office. Herman Deinzer, formerly with Colgate-Palmolive-Peet Co., Jersey City, has joined the firm as chief perfumer and as head of the research laboratory.

Bonuses for P & G Workers

More than \$500,000 in extra bonus money will be given to 7,500 employees of Procter & Gamble Co. as soon as practicable after December 31, according to a notice posted on the company's bulletin boards. The sum will represent four per cent of the net wages or salaries for the 1939 calendar year received by all regular employees with the company prior to June 30, 1939 whose compensation does not exceed \$3,000 for the year. The bonus will go to employees in the United States and Canada, some 3,000 being in the Ivorydale (Ohio) plant and the Cincinnati office. This bonus is exclusive of the established profit-sharing plan. Directors and management authorized the extra payment as warranted by present conditions, according to the bulletin.

Novel Soap Advertising

Benjamin Goetz, Milwaukee, has recently applied for a patent on a process by which an advertisement on the face of a cake of soap may be retained until the last portion of soap has been used. The process is essentially the application of wax or paraffin to the side of the soap which contains the message. The surface so treated prevents the soap from wearing down on that side, and only the sides and undersides are used for soaping purposes. It is also said that the waxing of the surface keeps the bar of soap from getting messy.

Soap Exports Up in Sept.

Foreign demand for American soaps increased sharply in September when exports of such products totaled \$564,500, according to the Chemical Division of the U. S. Department of Commerce. This was an increase of about 44 per cent over soap exports for the corresponding month in 1938 when the value was \$365,500. The greatest gain was recorded in dental creams, shipments of which increased from \$132,100 in September, 1938, to \$217,000 in September of this year. Toilet and fancy soaps increased in value from \$112,000 to \$164,000; laundry soaps, from \$49,

600 to \$66,200; soap powders, from \$6,000 to \$16,000; shaving creams, from \$13,500 to \$18,365; and other types from \$51,500 to \$83,000.

Venezuela Soap Tariff Down

The tariff rate imposed on United States toilet soaps and shaving soaps by Venezuela has been dropped 20 per cent by that government. This was among tariff concessions obtained in a Reciprocal Trade Agreement recently signed between that country and the United States. The reduction in duty, from 5 bolivares to 4 bolivares, affects American soap exports valued at \$40,000 in 1938.

Soap Assn. Meets Jan. 11

The annual meeting of the Association of American Soap and Glycerine Producers will be held at the Waldorf-Astoria Hotel, New York, January 11. The directors will meet in the morning and the general session at which new directors for the coming year will be chosen is scheduled for the afternoon. Any soap maker is privileged to attend. The meeting had originally been scheduled for November 23rd, but new plans had to be made when this date was selected as Thanksgiving Day.

Postpone Soap Weight Rule

Enforcement of an order compelling soap manufacturers to mark soap, weighing over three ounces, with weight at time of delivery has been temporarily postponed by the Weights and Measures Bureau, Dept. of Agriculture and Markets, State of New York. The law, which was put into effect in August, gives the Commissioner of Agriculture and Markets power to prescribe how products in bulk or in packages must be sold, and becomes more serious to the soap manufacturer when indications point to this as the possible beginning of a nation-wide move. A brief, setting forth the objections of the soap manufacturers to this order, is being prepared by the Association of American Soap & Glycerine Producers for presentation to the Bureau.

Soap Sales Surge Upward

Sales of soaps during the third quarter of this year were greater than in any other quarter since January 1, 1935, according to figures released by the Association of American Soap & Glycerine producers in its soap census tabulations. The latest figures show an increase in volume of more than 24 per cent over the second quarter of 1939, and more than 15 per cent over the first quarter. They are also 18 per cent greater than the third quarter figures for 1938, and are 31 per cent above the quarterly average for the four years from Jan. 1, 1935 to the end of 1938. Sales for the third quarter of 1939 amounted to 805,731,396 lbs., valued at \$77,111,035, as against 649,213,336 lbs., valued at \$64,132,901 for the second quarter of 1939, and 684,269,032 lbs., valued at \$67,262,237 in the third quarter of 1938.

Dr. Taussky in U. S.

Dr. Ilona Taussky, formerly of Vienna and London, has recently come to the United States on the request of several large American refiners of edible and technical oils and has installed improved refining processes. Dr. Taussky, a graduate of the University of Vienna, expects to make her permanent home in the United States and to continue advisory and consulting service in the oil and fat industries. Before leaving England recently, Dr. Taussky completed supervision of the design and process installation of the newest refinery of Messrs. Benninga, Ltd., at Hull, which was started in January of this year.

Lux Premium Offer

Lever Bros., Boston, have just completed a nation-wide advertising campaign for "Lux" soap, in which they promoted a special Thanksgiving Day offer of teaspoons. The company is also reported to be making plans for the introduction of a new soap to be known as "Swan." William Esty & Co. have recently been appointed to direct advertising for "Lifebuoy."



A "PUSH-OVER" FOR THE SOAP MAKER . . .

From the standpoint of advertising appeal . . . plus repeat sales value . . . VICTOR TETRASODIUM PYROPHOSPHATE makes every housewife a "push-over" for the soap maker! For never has a soap builder given the manufacturer so many talking points . . . nor contributed so much to the quality of his product. TETRASODIUM PYROPHOSPHATE'S powerful water-softening action gives more suds from less soap. Unique "peptizing" action suspends dirt particles throughout washing solu-

tion . . . prevents them from becoming enmeshed in fabric. Clothes rinse cleaner, whiter. Mild alkalinity (pH of 10.2) . . . will not tender hands.

Anticipating the demand for TETRASODIUM PYROPHOSPHATE as a soap builder, Victor developed an improved manufacturing technique . . . built the largest plant of its kind in existence today . . . was first to meet the demand for a product of improved quality.

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VICTOR CHEMICAL WORKS, 141 W. Jackson Boulevard, Chicago, Illinois

Plants: Nashville, Tenn.; Mt. Pleasant, Tenn.; Chicago Heights, Ill.

Offices: New York, N. Y.; Kansas City, Mo.; St. Louis, Mo.; Greensboro, N. C.

HEADQUARTERS FOR . . .
phosphates

Soap Employment Index Up

The employment index for the soap industry in the United States continued its upward trend in September of this year and reached a figure of 88.1. This compares with an August figure of 86 and the September, 1938, mark of 82.5. The index of soap plant payrolls kept pace with the employment index. The 1939 September mark stands at 106.5 as against 102.3 for August of this year and 98.4 for September of last year.

New Federal Specifications

Revised federal specifications covering soda ash, laundry soda, sodium-carbonate and caustic soda will shortly be released by the Federal Specifications Executive Committee and become effective not later than March 1, 1940 in the case of the first three and March 15, 1940 in the case of caustic soda. Printed copies of the specifications will be available shortly. The numbers are as follows: Soda Ash O-S-571a superseding O-S-571, Laundry Soda P-S-641a superseding P-S-641, Sodium Carbonate O-S-581a superseding O-S-581, and Caustic Soda P-S-631a superseding P-S-631.

Jamaican Soap Imports

Annual imports of soaps of all kinds into the Colony of Jamaica approximate \$300,000 per year, according to the Chemical Division, U. S. Department of Commerce. Of this amount, the United Kingdom accounts for about 90 per cent, while relatively small quantities are imported from the United States. It is thought, however, that in view of the present European situation, a large part of the Jamaica soap business will be diverted to the United States.

Exhibit at Chicago Show

The Sanitary Institute of America occupied a booth at the annual Products Exposition of the Purchasing Agents Association of Chicago, Nov. 15-16. The forty-seven member organizations supporting the Institute supply wiping clothes for industrial use and are large consumers of soaps and detergents. E.

D. Szold, 105 West Monroe St., Chicago, is executive director of the Institute.

New Curran Selling Plan

Curran Corp., Malden, Mass., has introduced a new merchandising and selling plan for its various "Gunk" compounds. Instead of offering a new "Gunk" compound for each application, the company will manufacture three basic concentrates which will be sold in lithographed containers. Special service bulletins will be distributed giving specifications and formulas showing the solvent diluent to be used with the various concentrates.

Dr. Guenther Back from Europe

Dr. Ernest S. Guenther, chief of research, Fritzsche Bros., Inc., perfuming materials, New York, recently returned from Europe aboard the S.S. Conte di Savoia. He had been in Europe since July, spending most of his time at the company's factory at Seillans, France.



Watkins Head Unique Shot

Unique in the annals of bird shooting is the recent experience of E. L. King, president of the J. R. Watkins Co., Winona, Minn., and Dr. E. G. Thomssen, technical director for the same company. They were on a hunting trip near Lake Preston, South Dakota, and the pheasants were plentiful, both bagging the limit of 25 birds allowed non-resident hunters. But, to the bird which Mr. King is pictured holding on his hand, there hangs a tale. The bird went up far ahead of him and he shot. The bird went down and was retrieved by one of the dogs pictured with Dr. Thomssen. But the bird was not dead,—

Colgate Votes Extra Dividend

The board of directors, Colgate-Palmolive-Peet Co., Jersey City, N. J., recently voted an extra dividend of 50 cents on each share of common stock of the company. The extra dividend, payable Dec. 15, 1939, to stockholders of record Nov. 21, 1939, is in addition to the regular annual dividend of 50 cents per common share.

Wants Laundry Soaps

A firm in Malta, Maltese Islands, is interested in the purchase of American manufactured laundry soaps. Further details may be had by making application to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4393.

Spazier Soap Building

An addition to the factory building of the Spazier Soap and Chemical Company, at 1619 Twentieth Street, Santa Monica, Calif., is being built, at a cost of approximately \$3000.

merely stunned,—and being unhurt revived almost immediately. Since Mr. King raises many pheasants on his estate near Winona, he brought the bird back with him and now plans to introduce a South Dakota strain on his Winona pheasant breeding grounds. Both Dr. Thomssen and Mr. King are intrepid hunters. Mr. King and his wife also are known as famous shots in gunning circles about the country.



Have you seen it?

PACKAGERS DIGEST OF S & S PACKAGING EQUIPMENT

S & S Carton Filling and Sealing Machines

As sealing machines only, or for filling by weight or volume and for sealing and for speeds up to 130 p.m.

Page 1

S & S Filling Machines

Gross weight, net weight and volumetric, with centrifugal feed for free flowing products and auger feed or conveyor feed for others. Speeds up to 120 p.m.

Pages 2 to 5

S & S Transwrap Packaging Machines

For forming, filling and sealing cellophane, pliofilm or other material packages taking the printed or unprinted web from the roll at speeds of 60 p.m. and up.

Pages 6 and 7

S & S Bag and Envelope Fillers and Sealers

For soft drink powder or for individual servings of chocolate powder, and for sealing bag liner in carton independently of flaps of carton.

Pages 8 and 9

S & S Complete Packaging Lines

Fully automatic from start to finish and including bag inserting and bag closing machines.

Page 12

S & S Tight-Wrapping Machines

Fully automatic or semi-automatic and fully adjustable for producing a moisture resisting and weevil tight package.

"Seven Minutes Reading Time"

Pages 10 and 11

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Have you received your copy of the Packagers Digest of Stokes & Smith Packaging Equipment? This new booklet, just off the press, gives a summary of the complete line of S&S Packaging Machines. Every user of packaging machinery should have it on file.

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Chemical Show Now Open

The Seventeenth Exposition of Chemical Industries is currently running from December 4 to 9, inclusive, at Grand Central Palace, New York. The show includes displays of chemicals and chemical products, plant equipment, laboratory equipment and supplies, instruments, metals and alloys, containers and packaging equipment, and materials handling equipment. The American Association of Soap & Glycerine Producers has an exhibit consisting of a "Glycerine" display on the third floor of the building. The show opens daily at 11 a.m. and closes at 10 p.m., except Wednesday and Saturday when the closing hour is 6 p.m. Admission is by registration.

To Advertise "Nu-A-Lu"

Senn Products Corp., New York, has launched a new advertising campaign for its product "Nu-A-Lu," a new soap-pad steel wool aluminum cleaner. W. I. Tracy, New York, is handling the account.

TGA Studies Deceptive Cartons

Answers to a questionnaire recently sent out by the board of standards of the Toilet Goods Association would indicate that a number of changes in cartons will have to be made by toilet goods manufacturers, as a result of seizures of alleged "deceptive" containers by the Food and Drug Administration. The answers to the questionnaire confirmed the view that it has become almost an accepted part of merchandising procedure to make cartons for collapsible tubes oversize. The association upon analysis of the answers received made a statement to manufacturers stressing five points to be kept in mind when studying the carton problem. (1) The cartons may be shortened which will involve in many cases changes in machinery, but which may solve the difficulty in particular instances. (2) Where the alleged deception consists in the use of an odd-shaped bottle, a full size picture of the bottle on the outside of the carton may remove the objection of the Administration. (3) In

all cases the net contents of the package within the carton should be prominently displayed on the outside of the case. (4) Many cartons are oversized to accommodate a sample of another product, or a small size of the same commodity which is in the carton. If this is done, it should be clearly announced on the outside of the carton. (5) Let the government know either direct or through the board of standards if any change in the package or carton is being planned at this time.

Textile Blue Book

Davison's Textile Blue Book published by Davison Publishing Co., Ridgewood, N. J. Contains 1400 pages (4 1/2 x 7 3/4 inches). Price \$5.00. A guide to the textile industry for all executives, sales managers, purchasing agents and others connected with the textile trades. Almost eight thousand textile plants are reported in detail, arranged alphabetically by states and names, and in the Deluxe Office Edition are also classified by product of each mill. The book gives the total number of looms, spindles, cards and combs by states and textile maps of various sections of the country. The book is thumb indexed for quick reference.

Chemists and Engineers Elect

Alvin C. Purdy, Bull & Roberts, New York, was elected president of the Association of Consulting Chemists and Chemical Engineers, at the organization's recent annual meeting. Other officers elected are Louis Weisberg, Louis Weisberg, Inc., vice-president; Bernard L. Oser, Food Research Laboratories, Inc., secretary; and Jerome Alexander, Chemists' Club, treasurer.

Albert E. Starkie Moves

Albert E. Starkie, fatty acids and vegetable oils, Oak Park, Ill., has moved to new and larger quarters at 528 N. Cuyler Ave.

F. Reinitz & Co. Moves

F. Reinitz & Co., toilet soaps, Long Island City, N. Y., have moved to new quarters at 46 Eleventh Street.

Fat Production At New Peak

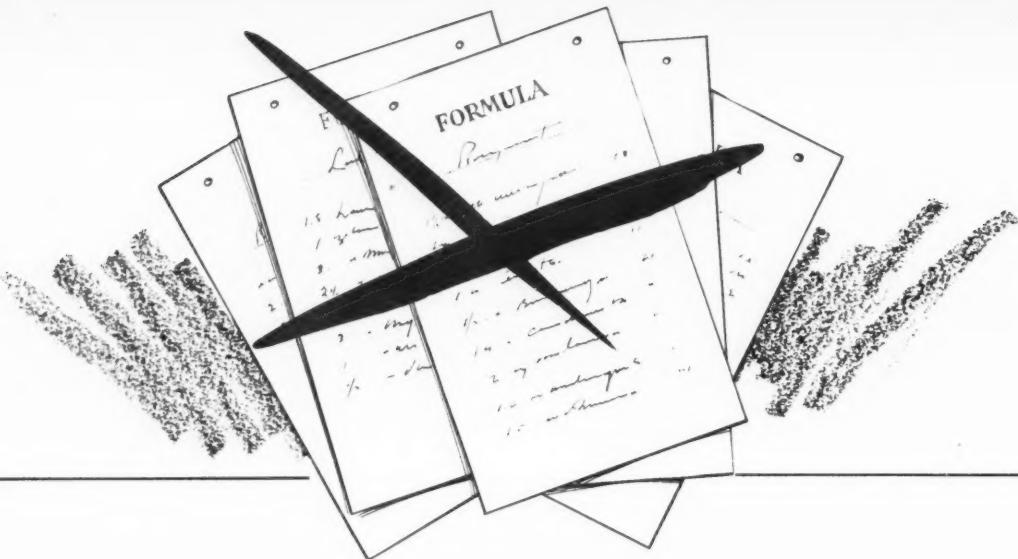
U. S. production of fats and oils from domestic materials in 1939-40 is expected to reach the largest total on record, according to a report issued November 15 by the U. S. Dept. of Agriculture. Increased production of lard, grease, soybean oil, and linseed oil—it is expected will much more than offset decreased production of cottonseed oil and peanut oil. Stocks of fats and oils on July 1, 1939, were unusually large, and with heavy crops of domestically produced fats available, import requirements for vegetable oils and oilseeds have been considerably less this year than they were a year ago. Present indications are that both domestic and foreign demand for food and soap fats will be strengthened somewhat during the next year as a result of increases in industrial and war activities, according to the department. Domestic prices of edible fats and oils in 1940, they believe, may be somewhat higher than in 1939 as a result, despite the relatively large current supplies of such fats and oils available.

Le Pan Wilson & Bennett V.P.

Harry Le Pan was recently elected vice president and general manager of sales of Wilson & Bennett Mfg. Co., steel container division of Inland Steel Co., Chicago. Mr. Le Pan has been with the company since 1922.

British Control of Fats

British Ministry of Supply is operating to see that supplies of raw materials are used to the best purpose. Such control also covers the points that steps be taken to replenish supplies when they are not replenished by the normal process of trade, and to see that supplies are available at reasonable prices. Control has been established over all business in oils, fats and oilseeds. No person shall use any of a list of staple vegetable and animal oils and fats except for purposes of human or animal food, except in accordance with the terms of a license granted by the Ministry of Food.



CAN YOUR PERFUME FORMULAS SURVIVE THE WAR?

OR WILL the rising cost of some ingredients and the unavailability of others necessitate your adopting new and possibly less attractive odor effects for your products?

If your fine formulas are thus jeopardized, may we suggest that you let our perfume specialists readjust them to meet this present emergency. Let them adapt your formulas to available ingredients of which we can assure ample quantities at moderate cost. Fortunately, due to world-wide connections carefully cultivated over many years, we are afforded greater latitude in the use of hard-to-get materials than might otherwise be possible. With this advantage, and by skillful manipulation of ingredients, we can supply you with odor compounds to match the familiar fragrances upon which the success of your products has been built.

We shall be glad to discuss this matter with any user of perfume materials at any time and in strictest confidence.

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Your basic materials should be the finest that modern methods and scientific skill can produce. In using FRITZSCHE'S Essential Oils you are assured matchless purity and dependability.

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Large selection and superlative quality characterize the materials in this group. Use them for finer aromatic effects and for greater economy.

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We carry a complete line of fixatives, including Rose Crystals, one of the best all-around fixatives, also a group of Artificial Animal Scents—Musk, Civet, Castoreum and Ambergris—especially adaptable to soap making.

• ANTI-OXIDANTS

These newly developed preservatives for soaps, animal and vegetable fats and oils are highly important to the soap manufacturer. Write us for full details concerning Oxidex.

• BATH SALT PERFUMES

Combining perfume and color, our delightful Bath Perfumes greatly simplify and facilitate the process of manufacture. Very economical. Complete information and list of blends will be sent upon request.

• INSECTICIDES AND DISINFECTANTS

Amply reflected in the variety and excellence of these materials is our laboratory's long research in this increasingly important field. Manufacturers interested in new and unique odor effects for their products are invited to write us for further details.

• DEODORIZING COMPOUNDS

Technical products such as para blocks, naphthalene, cleansers, waxes, polishes, solvents, diluents, etc., require good, dependable deodorizing compounds in their formulae. For effective, low cost coverage we offer and recommend Neutroleum, Safrella, Javolla, Methalate "C", and others.

• TOILET SOAP COMPOUNDS

Perfumes in this group have been specially prepared to meet the exacting demands of soap manufacture. They provide exquisite scents at a minimum cost.

• LIQUID SOAP AND SHAMPOO PERFUMES

These perfumes are highly soluble and mix readily with liquid soaps. Simple to use, cost limits and strength of odor desired determine quantity required.

• DENTAL AND ORAL FLAVORS

These flavors are of a special character, skillfully blended to impart pleasant, clean, refreshing taste effects. We are prepared also to create special flavor blends according to your specifications and for your exclusive use. Consult us freely.

• SOAP COLORS

We supply soap colors to produce any desired tint. Send us description or sample of color to be matched for our specific recommendations.

SEND FOR SAMPLES

Hold Soap Bowls Dutiable

The U. S. Court of Customs and Patent Appeals, in a case brought by McKesson & Robbins, Inc., Bridgeport, Conn., upheld the Collector of Customs in his ruling that ornamental bowls are not the usual containers for shaving soap and are therefore subject to duty when imported containing shaving soap. The bowls, invoiced as lavender shaving bowls and containing soap, were assessed a duty of 50 per cent ad valorem and 40 cents per pound.

Vapoo Products Stipulation

Vapoo Products Co., New York, has signed a stipulation with the Federal Trade Commission to discontinue misleading representations in the sale of its product "Arctic Syntex M." sold also under the name "Vapoo," and used in the cleaning of carpets, rugs and upholstery. The company had been using the word "sanitizes" the effect of which, the commission decided, might tend to convey the belief that the preparation is effective as a germicide or an antiseptic. The company also agreed to cease any representation that the product will remove all stains regardless of cause.

Soap Exports to Latin America

Exports of soaps of all kinds from the United States to Latin American countries decreased during 1938, according to the U. S. Department of Commerce. Total exports to these countries in 1938 were valued at \$711,986 as compared to \$802,179 in 1937. Those countries accounting for the larger quantities are Panama, \$218,058; Netherland West Indies, \$71,744; Cuba, \$66,023; Mexico, \$51,962, and Dominican Republic, \$49,824.

Wants Soap Agency

A firm in Alexandria, Egypt, is interested in the establishment of an agency for the sale of American toilet and laundry soaps. Further information may be had by writing to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4573.



“**P**ackaging is a business within a business, as you well know, John. So we decided we'd be ahead of the game working with an outfit that can offer us all the cooperation American Can does. One of our first benefits was a consultation with American Can Sales Engineers. Out of that came the innovations in our set-up which have resulted in a 20% increase in packaging efficiency. You ought to see what American Can can do for you.”



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Contracts Awarded

Wright Field Soap Awards

Newell-Gutradt Co., San Francisco, was awarded the contract on 29,000 cakes grit soap at 1.74c in a recent opening by the Army Air Corps at Wright Field, Ohio. At the same opening Stevens-Wiley Mfg. Co., Philadelphia, was awarded the contract on 4,100 cans scouring powder at 2.5c; R. M. Hollingshead Corp., Camden, N. J., was awarded the contract on 200 gals. liquid grit soap at 29.7c, and Armour & Co., Chicago, was awarded the contract on 9,100 pkgs. soap at 8.33c.

Cleaning Solvent Award

Shell Oil Co. was awarded the contract on 5,000 gals. cleaning liquid solvent at 25.1c in a recent opening at the Navy Yard, Washington, D. C.

Liquid Cleaner Bid

Creative Chemical Co., Pittsburgh, submitted the low bid of 19.5c on 990 gals. liquid cleaner in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Furniture Polish Award

R. M. Hollingshead Corp., Camden, N. J., was awarded the contract on 2,300 qts. liquid furniture polish at 12.5c in a recent opening by the Army Air Corps Supply at Wright Field, Ohio.

Frankford Arsenal

Naphtha Bid

Atlantic Refining Co., Philadelphia, submitted the low bid of 20c on 11,766 gals. naphtha in a recent opening by the Army Ordnance Department at Frankford Arsenal, Pa.

Marine Corps Soap Bids

Pal Products Co., Brooklyn, submitted the low bid of 2.25c on 6,000 cans cleanser in a recent opening by the Marine Corps at Washington, D. C. At the same opening, Unity Sanitary Supply Co., New

York, bid low on 100 lbs. soap at 25c, and United Supply Co., Paterson, N. J., bid low on 7,200 lbs. sweeping compound at 1.125c.

Disinfectant Bid

Murphy Products Co., Washington, D. C., bid low on 1,210 gals. disinfectant at 40.5c in a recent opening by the Treasury Procurement Supply at Washington, D. C. At the same opening James Good, Philadelphia, bid low on 8,105 gals. toilet soap at 19.7c and Fox Chemical Service, Arlington, Va., submitted the low bid of 2.34c on 6,500 lbs. trisodium phosphate.

Shaving Soap Bid

N. Brittingham & Sons, Philadelphia, submitted the low bid of 18.7c on 500 lbs. shaving soap in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Trisodium Phosphate Bid

Sole Chemical Corp., Long Island City, N. Y., submitted the low bid of 3c on 7,500 lbs. trisodium phosphate in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Cleaning Solvent Award

Pritchard Refining Co., Oklahoma City, was awarded the contract on 7,000 gals. dry cleaning solvent in a recent opening by the Army Quartermaster at Ft. Sill.

Treasury Toilet Soap Bid

Rudolph Guth, Inc., Cleveland, submitted the low bid of 18c on 1,020 gals. toilet soap in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Automobile Soap Bid

James Good, Philadelphia, bid low on 3,000 lbs. automobile soap at 1.98c in a recent opening by the

Treasury Procurement Supply at Washington, D. C. At the same opening, Sterling Supply Corp., Philadelphia, bid low on 72,000 lbs. laundry soap at \$7.22 cwt.

Carbon Tetrachloride Award

Globe Solvents Co., Philadelphia, was awarded the contract on 500 gals. carbon tetrachloride at 65c in a recent opening by the Army Ordnance at Frankford Arsenal, Pa.

Soap Contract Awards

Gillam Soap Works, Fort Worth, Tex., was recently awarded government contracts on 6,388 lbs. high test, 70 per cent hypochlorite, and on 75,300 lbs. laundry soap powder for deliveries to Fort Sam Houston, Fort Clark, Fort Brown and Fort Sill.

Shaving Soap Bid

Brittingham & Sons, Philadelphia, and Unity Sanitary Supply Co., New York, both submitted the low bid of 22 cents on 300 lbs. shaving soap in a recent opening by the Treasury Procurement Supply at Washington, D. C.

Type Cleaner Bid

Noonberg Bros., Baltimore, submitted the low bid of \$1,037.50 on 25,000 bottles type cleaner in a recent opening by the Treasury Procurement Supply at Washington, D. C. At the same opening, Procter & Gamble Distributing Co., Cincinnati, bid low on 60,000 lbs. toilet soap at 7.36 cents.

Carbon Tetrachloride Award

James Good, Philadelphia, was awarded the contract on 14,937 lbs. carbon tetrachloride at 4.98 cents and on 1,840 pts. of carbon tetrachloride at 18.8 cents in a recent opening by the Army Air Corps at Wright Field, Ohio.

Cleaning Solvent Award

Industrial Distributors, New York, were awarded the contract on 13,303 gals. dry cleaning solvent at 12.9 cents in a recent opening by the Army Air Corps at Wright Field, Ohio.



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CAMFOL for Camphor Sassafrassy

CITROGEN No. 22 for Citronella

SAFRASS A.P. for Sassafras Artificial

BERGAMOT SYNTHETIC "S" . for Bergamot Natural

GERANIUM SYNTHETIC A.P. . for Geranium Natural

LAVENDER FLEURS

SYNTHETIC A.P. for Lavender Natural

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727 Grant Building

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205 West Wacker Drive

New Trade Marks

The following trade-marks were published in the November issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

BULL FROG—This in script letters above drawing of frog holding broom, describing cleaning preparations. Filed by Berman Chemical Co., Toledo, O., Nov. 2, 1938. Claims use since 1915.

SALLY LUNN—This in script letters describing soap powder. Filed by Ammiel F. Decker, Pelham, N. Y., July 21, 1939. Claims use since June 2, 1939.

N B C—This in solid letters describing liquid cleaner. Filed by Fuller Finish Co., Chicago, Aug. 3, 1939. Claims use since July 18, 1939.

SUPER SNOW—This in solid letters describing cleansing compound. Filed by Standard Industrial Products, Inc., Evansville, Ind., Aug. 9, 1939. Claims use since May, 1939.

NUMETAL—This in solid letters describing metal polish. Filed by The Vaporine Co., Chicago, Sept. 5, 1939. Claims use since Aug. 1, 1939.

TOILEX—This in script letters describing cleanser. Filed by Vestal Chemical Co., St. Louis, May 24, 1939. Claims use since May 1, 1931.

KOLODIP—This in solid letters describing animal dip. Filed by Niagara Sprayer and Chemical Co., Middleport, N. Y., June 29, 1939. Claims use since June 29, 1938.

SOLIDOX—This in solid letters describing dentifrices. Filed by John Knight, Ltd., London, Sept. 9, 1939. Claims use since May 19, 1939.

GRANULO—This in solid let-

ters describing granulated soap. Filed by The Hewitt Soap Co., Dayton, O., May 27, 1939. Claims use since Feb. 10, 1937.

SPRITE—This in solid letters describing glass cleanser. Filed by Jones Bros. Co., Chicago, Aug. 10, 1939. Claims use since July 11, 1939.

EPSO—This in solid letters describing soap. Filed by Joseph Metrie, Milwaukee, Aug. 21, 1939. Claims use since Aug. 7, 1939.

LEMONATED—This in script letters describing household cleanser. Filed by Steele-Wedeles Co., Chicago, Aug. 23, 1939. Claims use since Mar. 10, 1939.

HERR-ETT-IS—This in solid letters describing cleansing preparation. Filed by Clarence J. Herrett, Bremerton, Wash., Sept. 7, 1939. Claims use since Aug. 1, 1939.

KIDDY KIX—This in script letters describing shoe polish. Filed by Cardinal Laboratories, Inc., Chicago, Aug. 18, 1939. Claims use since Aug. 8, 1939.

No. 140 LIQUID DRY CLEANER—This in solid letters describing liquid dry cleaner. Filed by Davies-Young Soap Co., Dayton, O., Aug. 19, 1939. Claims use since July 25, 1939.

SKET-O-LOSHUN—This in solid letters describing insect repellent. Filed by Millsite Steel & Wire Works, Howell, Mich., Feb. 18, 1939. Claims use since Aug. 22, 1938.

HIS—This in outlined letters describing tooth paste. Filed by The House For Men, Inc., Chicago, Feb. 25, 1939. Claims use since Feb. 20, 1939.

ARENA BLEACH-TEX—This in solid letters describing disinfectant-germicide. Filed by Arena-Javelle Co., New York, Aug. 25, 1939. Claims use since July 1, 1933.

IN-BETWEEN—This in solid letters describing dentifrice. Filed by Timothy F. Williams, New York, Aug. 26, 1939. Claims use since Aug. 9, 1939.

OVER-NITE—This in solid let-

ters describing rat and roach exterminators. Filed by James Laurens Nicholes, Philadelphia, July 12, 1939. Claims use since May, 1916.

GULF—This in solid letters describing insecticide. Filed by Gulf Oil Corp., Pittsburgh, Aug. 31, 1939. Claims use since July, 1925.

FLORODOL—This in solid letters describing soap. Filed by Tekniska Aktiebolaget Flora, Gayle, Sweden, May 3, 1939. Claims use since 1905.

TIDY HOUSE—This in solid letters describing polish and soap. Filed by Tidy House Products Co., Des Moines, Iowa, June 28, 1939. Claims use since June 9, 1939.

TRIC—This in solid letters describing water softener. Filed by Franklin Chemical Co., Rochester, N. Y., Aug. 2, 1939. Claims use since Apr. 1, 1938.

FLEAMASTER—This in solid letters describing insecticides. Filed by George A. Morty Co., Miami, Fla., Aug. 9, 1939. Claims use since July 21, 1939.

WHITE MONDAY—This in outlined letters above portrait of house, describing bleaching and disinfecting solutions. Filed by Sinclair Manufacturing Co., Toledo, O., Sept. 8, 1939. Claims use since July 29, 1937.

PORCELENE—This in solid letters describing automobile polish. Filed by Hycin Laboratories, Baltimore, Aug. 25, 1939. Claims use since April, 1937.

Trade Marks Granted

371,683. Soaps. Abbott Laboratories, North Chicago, Ill. Filed April 24, 1939. Serial No. 418,623. Published July 25, 1939. Class 4.

371,688. Soaps. Brillo Manufacturing Co., New York. Filed April 28, 1939. Serial No. 418,813. Published July 25, 1939. Class 4.

371,730. Detergent for Cleaning Metals. General Chemical Co., New York. Filed May 17, 1939. Serial No. 419,511. Published July 25, 1939. Class 4.

371,744. Cleansing Powder for Industrial Use. Plomocite Products, Inc., Denver, Colo. Filed May

CRESYLIC ACID — FORMALDEHYDE AROMATICS

Phenyl Ethyl Alcohol
Methyl Acetophenone
Acetophenone
Geranyl Acetate
Yara Yara

Phenyl Ethyl Acetate
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(The interesting Oriental perfume)

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(The famous French Bouquet perfume)

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22, 1939. Serial No. 419,683. Published July 25, 1939. Class 4.

371,808. Cleaning and Water-Softening Compound. Sugar Beet Products Co., Saginaw, Mich. Filed November 25, 1938. Serial No. 413,161. Published August 1, 1939. Class 4.

371,825. Cleaning Compound. J. E. Johnson & Co., Chicago. Filed April 12, 1939. Serial No. 418,154. Published August 1, 1939. Class 4.

371,832. Soaps. Brillo Manufacturing Co., New York. Filed April 28, 1939. Serial No. 418,809. Published August 1, 1939. Class 4.

371,966. Soap. B. Altman & Co., New York. Filed May 22, 1939. Serial No. 419,649. Published August 8, 1939. Class 4.

372,026. Shoe Cleaners. Osmic Chemical Co., Brockton, Mass., assignor to The Elliott Corporation, Brockton, Mass., a corporation of Massachusetts. Filed April 5, 1939. Serial No. 417,888. Published August 8, 1939. Class 4.

372,036. Soaps. Brillo Manufacturing Co., New York. Filed April 28, 1939. Serial No. 418,811. Published August 8, 1939. Class 4.

372,038. Soaps. Brillo Manufacturing Co., New York. Filed April 28, 1939. Serial No. 418,818. Published August 8, 1939. Class 4.

372,083. Insecticide. Lethelin Products Co., Wood-Ridge, N. J. Filed July 27, 1938. Serial No. 408,958. Published September 27, 1938. Class 6.

372,096. Cleaning Powder. Hygienic Products Co., Canton, Ohio. Filed December 10, 1938. Serial No. 413,673. Published August 15, 1939. Class 4.

372,113. Insecticides. Baird & McGuire, Inc., Holbrook, Mass. Filed March 20, 1939. Serial No. 417,253. Published August 1, 1939. Class 6.

372,128. Liquid Dentifrice. Edward H. Heil, Cleveland. Filed April 20, 1939. Serial No. 418,483. Published August 1, 1939. Class 6.

372,133. Insecticide. New Chemical Products Co., Washington, D. C. Filed April 25, 1939. Serial No. 418,683. Published July 25, 1939. Class 6.

372,144. Insecticides. Lois B. Beckwith, Manchester Center, Vt. Filed May 11, 1939. Serial No. 419,289. Published July 25, 1939. Class 6.

372,150. Insecticides. Kentucky Color & Chemical Co., Louisville, Ky. Filed May 15, 1939. Serial No. 419,427. Published July 25, 1939. Class 6.

372,154. Toothpaste and Dentifrice. The Starkist Co., Gloster, Miss. Filed May 15, 1939. Serial No. 419,457. Published July 25, 1939. Class 6.

372,160. Insecticides. Derris, Inc., New York. Filed May 18, 1939. Serial No. 419,550. Published August 1, 1939. Class 6.

372,162. Insecticides. Huey-mite, Inc., Dayton, Ohio. Filed May 19, 1939. Serial No. 419,575. Published August 1, 1939. Class 6.

372,166. Cleaner. E-Z-R Products Co., Glendale, Calif. Filed May 23, 1939. Serial No. 419,716. Published August 15, 1939. Class 4.

372,181. Insecticides. J. M. Harris & Co., Roanoke, Va. Filed May 29, 1939. Serial No. 419,968. Published August 1, 1939. Class 6.

372,183. Toilet Bowl Cleaner. Wonder Products Co., Canton, Ohio. Filed May 31, 1939. Serial No. 420,036. Published August 8, 1939. Class 6.

372,199. Polish and Cleaner. The Black & Decker Manufacturing Co., Towson, Md. Filed June 5, 1939. Serial No. 420,160. Published August 15, 1939. Class 16.

372,221. Soaps. Hart Products Corp., New York. Filed June 13, 1939. Serial No. 420,456. Published August 15, 1939. Class 4.

372,298. Wax Polishes. Magic Chemical Co., Salt Lake City, Utah. Filed January 18, 1937. Serial No. 387,911. Published August 22, 1939. Class 16.

372,328. Termite Destroying Paste. Herman Niere, St. Louis. Filed September 12, 1938. Serial No. 410,473. Published August 15, 1939. Class 6.

372,356. Rat Exterminator. West Disinfecting Co., Long Island City, N. Y. Filed March 8, 1939. Serial No. 416,823. Published August 15, 1939. Class 6.

372,363. Insecticides. Alabama Insecticide Co., Gadsden, Ala. Filed April 13, 1939. Serial No. 418,179. Published August 22, 1939. Class 6.

372,388. Soaps. Brillo Manufacturing Co., New York. Filed April 28, 1939. Serial No. 418,812. Published August 22, 1939. Class 4.

372,490. Granular Cleaner. Naylee Chemical Co., Philadelphia. Filed June 23, 1939. Serial No. 420,870. Published August 22, 1939. Class 4.

372,523. Liquid Dentifrice. Colgate-Palmolive-Peet Co., Jersey City, N. J. Filed July 11, 1939. Serial No. 421,452. Published August 22, 1939. Class 6.

372,601. Cleaning Preparation. Moe-Nade Laboratories, Denver, Colo. Filed May 8, 1939. Serial No. 419,209. Published August 29, 1939. Class 4.

372,619. Soap and Shaving Cream. Philadelphia Wholesale Drug Co., Philadelphia. Filed May 26, 1939. Serial No. 419,877. Published August 29, 1939. Class 4.

372,770. Soap Compounds. Shulton, Inc., New York. Filed May 26, 1939. Serial No. 419,883. Published September 5, 1939. Class 4.

372,771. Soap Compounds. Shulton, Inc., New York. Filed May 26, 1939. Serial No. 419,888. Published September 5, 1939. Class 4.

372,821. Soaps and Cleansers. Sandy Valley Grocery Co., Ashland, Ky. Filed June 28, 1939. Serial No. 421,056. Published September 5, 1939. Class 4.

372,850. Hand Soap. Master Sales Co., Chicago. Filed July 12, 1939. Serial No. 421,487. Published September 5, 1939. Class 4.

Wants American Dentifrice

A firm in Cairo, Egypt, is interested in establishing an agency for the sale of American dental paste. Further particulars may be obtained by writing to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4777.

CARLOADS FOR PRODUCTION . . .
BUT NOT A POUND FOR PROTECTION

*Contract
NOW
for 1940!*

• This Company is selling CHEMICALS, GUMS and WAXES—Not War Risk Insurance.

• Current conditions in the Chemical Industry are too well known to need discussion here.

• We will leave no stone unturned to maintain fair and reasonable prices, based on actual market values—not fear-inflated reflections of future—and we believe unlikely shortages.

• We want no "War Booms" or "Synthetic Prosperity." With this in mind we invite you to write contracts for your normal needs in the coming year.

• • •

ISCO CAUSTIC POTASH—All American Product
All forms and packages.

Flake Solid Granular Broken Liquid (iron free)

ISCO CAUSTIC SODA—Various forms and standard grades.
Solid Flake Crystals Liquid

ISCO WAXES

We have long specialized in Waxes. Experience has taught us the best methods of cleaning and refining the crude.

BEESWAX—Pure Yellow Refined
Pure White Sunbleached

CARNAUBA and CANDELILLA
In Flake and Lump Form

ISCO TRINITY TALC—A domestic talc of superior quality.
Comparable with the best imported.

INNIS, SPEIDEN & CO.
Established 1816
117-119 Liberty Street . . . NEW YORK
BOSTON • PHILADELPHIA • CHICAGO • CLEVELAND • GLOVERSVILLE, N. Y.
A National Institution

IMPORTANT NOTICE to BEAUTY SUPPLY and LIQUID SOAP MANUFACTURERS



Put up in 5, 10,
25, 65, 100 and
425 lb. drums.

has definite cleaning qualities and
is free from alkali.

TESTED AND APPROVED BY PROMINENT NEW YORK TESTING LABORATORY*

REPORT:	
Volatile matter	43.21
Anhydrous soap	47.44
Free Alkali	0.00
Ash	0.45
Glycerine and undetermined matter	8.90
Sodium Salts	negligible trace
Potassium Salts	present
Physical constants of oil from soap.	
Saponification value	258
Iodine value	7.3
Solidifying point	16°C

COMMENT: We find this to be a pure soft soap made from coconut oil. It contains no soda, free acid, alcohol or foreign fat.

*Name of laboratory upon request.

Priced in competition with ordinary soaps. Available in opal, natural, mint, pine and tar; also any other perfume or color desired.

Samples Submitted Without Any Obligation.

ATTENTION LIQUID TOILET SOAP MANUFACTURERS

You, too, will find this is the Shampoo Base to make your liquid soap for dispensers. There is no alkali content that corrodes valves, thereby assuring long life for soap dispensers.

Onalim Co.
TRADE MARK

2295 SECOND AVENUE

Tel.: LEligh 4-2620

NEW YORK, N. Y.

Cable Address: ONALIM, New York

SPECIALISTS IN LIQUID SOAPS AND SHAMPOO BASES

Raw Material Markets

As of November 27, 1939

NEW YORK — The soap and sanitary chemical raw material market was definitely easier this period as prices, which had risen during the past few months, began to re-establish themselves at new levels. There were only a few price changes in the chemical list, all these being of a minor nature; such was also the case in the gums and waxes list where only one price change was noted. The usually placid essential oil market showed the greatest activity where hardly an item in the list remained unchanged. These changes for the most part, however, were of a downward nature, as were those in the oils and fats list which had commenced to show a downward trend last period. The aromatic chemical market is just beginning to feel the effects of the war, and upward price movements were frequent in this list. The insecticide materials list showed no change.

CHEMICALS

Rosin

An easier tone developed in the rosin market this period, apparently being a reflection of a recent slowing down of new business. Sales showed some increase with the decline, but purchases were generally limited to small or moderate quantities. Grades K to N are being quoted at \$6.60 to \$6.75 per bbl., as compared to previous figures of \$6.95 and \$7.00. Grade WG has dropped in price from \$7.10 to \$6.95 per bbl.

Adeps Lanae

The lanolin market showed no slowing down this period and continued its upward trend of the past few months. The hydrous material is being sold at 29 to 30 cents per lb., as compared to 27 and 29 cents per lb. last period. Anhydrous lanolin is quoted at 30 to 31 cents per lb., as

against 28 to 29 cents per lb. previously.

OILS AND FATS

Coconut Oil

The slight easing off in the coconut oil market last period was followed by a substantial reduction in price this period, with sales of tanks, New York, taking place at 3 1/4 cents per lb. as compared to 4 1/8 cents per lb. last period. Prices on the Pacific Coast for tanks, futures, stand around 3 1/2 cents per lb., as against 4 cents per lb. last period. There was little demand for the oil this period as consumers seemed inclined to await further developments in the situation abroad, as well as in domestic fats and oils. Shipments of coconut oil from the Philippine Islands from January 1 to October 28, this year, were 270,823,223 pounds, or 60.45 per cent of the allowable quota.

Tallow

A fairly active inquiry was reported in the tallow market this period, although much of the purchasing was limited to comparatively small quantities to fill current needs of buyers. The market, on the whole, was featured by a steady tone, there being no price changes this period. The quotations stand at 5 7/8 cents per lb. for special tallow, and 6 cents per lb. for extra.

Olive Oil

Of particular interest to soap makers this period was a substantial drop in the price of denatured olive oil which sold last period at \$1.40 per gal. in New York. The new level is fairly steady at \$1.05 to \$1.15 per gal. As a result of this reduction in price, there were signs of more active demand, although business was still of a moderate nature. Supplies of the oil have increased to some extent. Quotations on foots are 9 to 9 1/2 cents per lb.

Fatty Acids

Fatty acid prices seemed to reflect oil prices this period, with several price changes indicating an easing of the market. Coconut oil fatty acid was the lone exception, as this raw material moved upward 1/4-cent per lb. It is now being sold at 10 to 10 1/4 cents. A good inquiry was noted for most of the fatty acids, although business remained quiet in nature.

PERFUMING MATERIALS

Lavender Oil

Although production of lavender oil is far below normal, shipments of the oil are beginning to move, resulting in a decline of prices. Last period the range of the market was from \$3.75 to \$5.75 per lb. Now these quotations have moved downward to a range between \$2.30 and \$5.25 per lb. The comparative quietness of the European war lends an optimistic note to the future of lavender oil supplies, and it is felt that curtailment of the crop may not be as drastic as was first assumed.

Citronella Oil

There was a slight easing in the price of the Ceylon oil this period when quotations were reduced to 44 and 46 cents per pound. However, near the end of the period these prices were advanced several cents and are now quoted at 46 and 48 cents per lb. This compares with 48 to 50 cents per lb. for the Ceylon oil last period. There was no change in the price of Java citronella oil this period.

Williams Sealing Elects Hill

D. W. Hill has recently been elected president of Williams Sealing Corp., makers of "Kork-N-Seal" and "Pour-N-Seal" closures, Decatur, Ill. He has been associated with the company for the past seven years, three of these as vice-president.

KRANICH SOAPS

PURE POWDERED SOAPS

Castile, U.S.P.

Coconut, Pure

White Neutral

Palm, Pure

Castor, Pure

POTASH SOAPS

Complete line of Shampoos, Shampoo Bases, Liquid Soaps, Oil Soaps, Pine Scrub and Automobile Soap.

For the Trade

KRANICH SOAP COMPANY, Inc.

54 Richards Street

Brooklyn, N. Y.

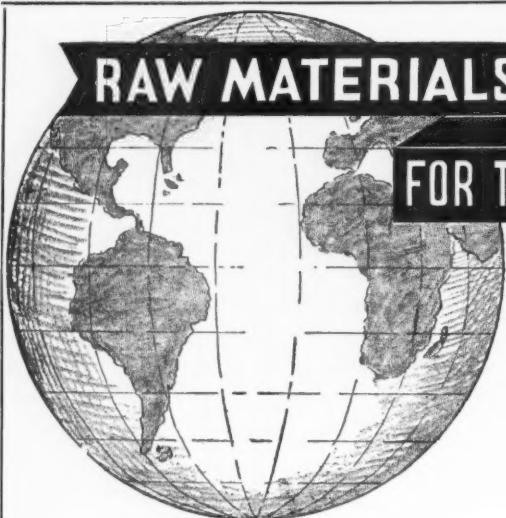
RAW MATERIALS

1838-1939

FOR THE SOAP INDUSTRY

Oils Fats
Chemicals
Fatty Acids
White Mineral Oils
Petrolatums

FROM ALL PARTS OF THE WORLD



Mineral Oils

Petrolatums

Fatty Alcohols

Special Fatty Acids

Castor Oil

Cocoanut Oil

Corn Oil

Cottonseed Oil

Palm Oil

Palm Kernel Oil

Olive Oil

Olive Oil Fats

Peanut Oil

Perilla Oil

Rapeseed Oil

Sesame Oil

Soya Bean Oil

Teased Oil

Fatty Acids

Lard Oils

Neatsfoot Oil

Oleo Stearine

Stearic Acid

White Olein

Tallow

Grease

Lanolin

Caustic Soda

Soda Ash

Caustic Potash

Carbonate Potash

Sal Soda

Modified Soda

Silicate Soda

Metasilicate

Tri Sodium Phosphate

Di Sodium Phosphate

Chlorophyll

Superfattening Agent

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET

ESTABLISHED 1838

NEW YORK CITY

Raw Material Prices

(As of Nov. 20, 1939)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb. \$.07	\$.07 1/2
Acid, Boric, bbls., 99 1/2 %	ton 106.00	138.00
Cresylic, drums	gal. .58	.60
Low boiling grade	gal. .58	.60
Muriatic, C. P., carboys	lb. .08	—
Oxalic, bbls.	lb. .10 3/4	.12
Adeps Lanae, hydrous, bbls.	lb. .29	.30
Anhydrous, bbls.	lb. .30	.31
Alcohol, Ethyl, U.S.P., bbls.	gal. 4.56 1/2	4.59 1/2
Complete Denat., SD 1, drums, ex.	gal. .27 1/2	.30 1/2
Alum. Potash Lump	lb. .036	.038
Ammonia Water, 26°, drums	lb. .024 1/4	.02 1/2
Ammonium Carbonate, tech., bbls.	lb. .08	—
Bentonite, 1, works	ton —	16.00
Bentonite, 2, works	ton —	11.00
Bleaching Powder, drums	100 lb. 2.25	3.35
Borax, pd., cryst., bbls., kegs	ton 58.00	74.00
Carbon Tetrachloride, car lots	gal. .66 1/2	1.10
L. C. L.	gal. .73	1.17
Caustic, see Soda Caustic, Potash Caustic		
China Clay, filler	ton 10.00	25.00
Cresol, U.S.P., drums	lb. .09 1/2	.10
Creosote Oil	gal. .13 1/2	.14 1/2
Feldspar (200 to 325 mesh)	ton 14.00	15.00
Formaldehyde, bbls.	lb. .05 3/4	.06 1/4
Fullers Earth	ton 10.00	32.00
Glycerine, C. P., drums	lb. .12 1/2	.13
Dynamite, drums	lb. —	Nom.
Saponification, drums	lb. .09	.10
Soap, lye, drums	lb. .07 3/4	Nom.
Hexalin, drums	lb. .30	—
Kieselguhr, bags	ton —	35.00
Lanolin, see Adeps Lanae.		
Lime, live, bbls.	per bbl. —	2.45
Mercury Bichloride, kegs	lb. 1.99	2.14
Naphthalene, ref. flakes, bbls.	lb. .06 3/4	—
Nitrobenzene (Mirbane) drums	lb. .08	.09
Paradichlorobenzene, bbls., kegs	lb. .12 1/2	.15 1/2
Petrolatum, bbls. (as to color)	lb. .04	.07 1/2
Phenol (Carbolic Acid), drums	lb. .13	.13 3/4
Pine Oils, bbls.	gal. .52	.59
Potash, Caustic, solid	lb. .06 1/4	.06 1/4
Flake, 88-92%	lb. .07	.07 1/2
Liquid, 45% basis	lb. .03 3/8	.03 3/4
Potassium Carbonate, solid	lb. .06 1/2	.06 1/2
Liquid	lb. .03	.03 1/2
Pumice Stone, powder	100 lb. 3.50	4.50
Rosins (600 lb. bbls. gross for net)—		
Grade B to H, basis 280 lbs.	bbl. 5.25	6.50
Grade K to N	bbl. 6.60	6.75
Grade WG to X	bbl. 6.95	7.55
Wood	bbl. 4.35	6.00
Rotten Stone, pwd. bbls.	lb. .08 1/2	.10
Silica	ton 20.00	27.00
Soap, Mottled	lb. .04 1/4	.04 1/2
Olive Castile, bars	lb. .18	—
Olive Castile, powder	lb. .35	—
Powdered White, Neutral	lb. .19	.22
Olive Oil Foot, bars, 68-70%	lb. .11	—
Green, U.S.P.	lb. .09	—
Tallow Chips, 88%	lb. .08 1/2	—
Soda Ash, cont., wks., bags, bbls.	100 lb. 1.08	1.35
Car lots, in bulk	100 lb. .90	.95

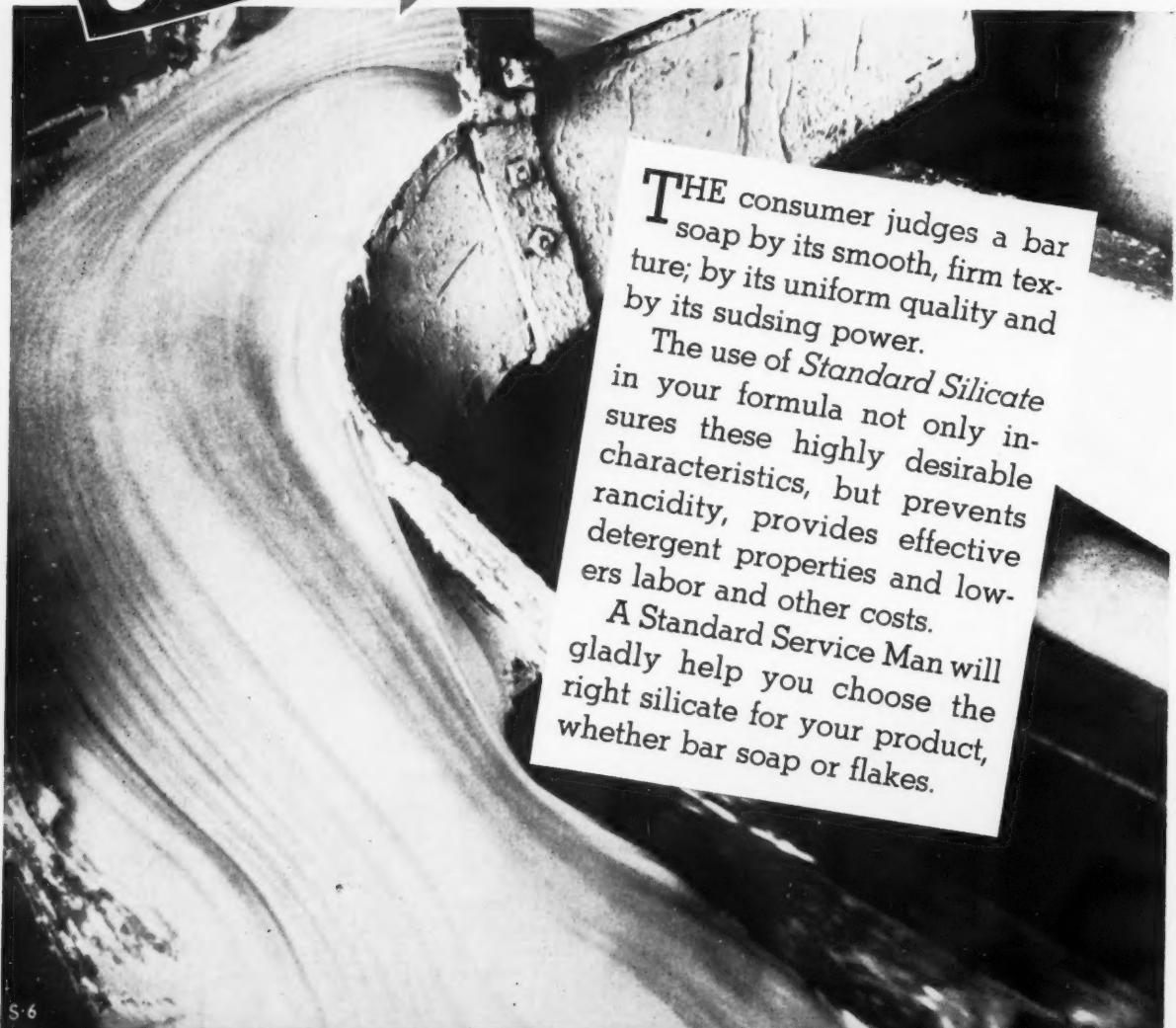
Soda Caustic, cont., wks., solid	100 lb. 2.30	—
Flake	100 lb. 2.75	—
Liquid, tanks, 47-49%	100 lb. 1.95	—
Soda Sal, bbls.	100 lb. 1.10	1.30
Sodium Chloride (Salt)	ton 15.00	15.60
Sodium Fluoride, bbls.	lb. .07 1/2	.08 1/2
Sodium Hydrosulfite, bbls.	lb. .16	.17
Sodium Metasilicate, ground	100 lb. 2.20	3.15
Crystalline	100 lb. 2.90	—
Sodium Pyrophosphate	100 lb. 5.10	5.55
Sodium Silicate, 40 deg., drum	100 lb. .80	1.20
Drums, 52 deg. wks.	100 lb. 1.40	1.80
Tar Acid Oils, 15-25%	gal. .21	.28
Triethanolamine	lb. .19	.20
Trisodium Phosphate, bags, bbls.	lb. .022	.028
Zinc Oxide, lead free	lb. .06 1/2	.07 1/2

Oils — Fats — Greases

Babassu, tanks, futures	lb. .06 3/4	Nom.
Castor, No. 1, bbls.	lb. .13 1/4	.14
No. 3, bbls.	lb. .11 1/4	.12
Coconut (without excise tax)		
Manila, tanks, N. Y.	lb. .03 3/4	—
Tanks, Pacific Coast, futures	lb. .03 1/2	—
Copra, bulk, coast	lb. .02	—
Corn, tanks, mills	lb. .05 1/2	.08 1/2
Cottonseed, crude, tanks, mill	lb. .06	.06 1/2
PSY, futures	lb. .07	.0790
Fatty Acids,		
Corn Oil, tanks	lb. .09	.09 1/4
Coconut Oil, tanks	lb. .10	.10 1/4
Cotton Oil, tanks	lb. .08 1/2	.08 1/2
Settled soap stock	lb. .03 3/4	.03 3/4
Boiled soap stock, 65%	lb. .04 1/4	.04 1/2
Foots, 50%	lb. .01 1/4	.01 1/2
Linseed Oil	lb. .11 1/2	.12 1/2
Red Oil, bbls., dist. or sapon.	lb. .09	.09 1/2
Tanks	lb. .08 1/2	—
Stearic Acid,		
Double pressed	lb. .12 1/2	.13 1/2
Triple pressed	lb. .15 1/4	.16 1/4
Greases, choice white, bbls.	lb. .06	.06 1/2
Yellow	lb. .05 1/4	.05 1/2
Lard, city	lb. .07	.07 1/2
Linseed, raw, bbls.	lb. .0970	.0990
Tanks, raw	lb. .0910	.0930
Boiled, 5 bbl. lots	lb. .1070	—
Olive, denatured, bbls., N. Y.	gal. 1.05	1.15
Foots, bbls., N. Y.	lb. .09	.09 1/2
Palm, shipment	lb. No Prices	
Palm, Kernel, shipment	lb. No Prices	
Sesame Oil, dms.	lb. No Prices	
Soya Bean, domestic, tanks, crude	lb. .06	—
Stearine, oleo, bbls.	lb. .07 1/2	.08
Tallow, special, f.o.b. plant	lb. .05 1/2	—
City, ex. loose, f.o.b. plant	lb. .06	—
Teaseed Oil, crude	lb. .13	—
Whale, refined	lb. .0910	—

STANDARD SILICATE

for FIRM SMOOTH UNIFORM Soaps



THE consumer judges a bar soap by its smooth, firm texture; by its uniform quality and by its sudsing power.

The use of Standard Silicate in your formula not only insures these highly desirable characteristics, but prevents rancidity, provides effective detergent properties and lowers labor and other costs.

A Standard Service Man will gladly help you choose the right silicate for your product, whether bar soap or flakes.

DIAMOND ALKALI COMPANY
Standard Silicate Division

General Offices • PITTSBURGH, PA.

Plants at Cincinnati • Jersey City • Lockport, N. Y. • Marseilles, Ill.

(As of Nov. 20, 1939)

Essential Oils

Almond, Bitter, U.S.P.	lb.	\$2.00	\$2.10
Bitter, F. F. P. A.	lb.	2.10	2.20
Sweet, cans	lb.	1.00	1.25
Anise, cans, U.S.P.	lb.	.77	.83
Bay, tins	lb.	1.20	1.35
Bergamot, coppers	lb.	4.00	4.25
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.75	.80
Crude, tins	lb.	.25	.26
Bois de Rose, Brazilian	lb.	1.60	1.65
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.55	.60
Cajeput, native, tins	lb.	.53	—
Calamus, tins	lb.	8.00	8.25
Camphor, Sassy, drums	lb.	.33	Nom.
White, drums	lb.	.50	Nom.
Cananga, native, tins	lb.	1.50	1.60
Rectified, tins	lb.	2.00	2.10
Caraway Seed	lb.	3.00	3.25
Cassia, Redistilled, U.S.P.	lb.	1.20	1.25
Cedar Leaf, tins	lb.	.95	1.00
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.39	.40
Citronella, Ceylon, drums	lb.	.46	.48
Clove, U.S.P., tins	lb.	1.50	1.60
Eucalyptus, Austl., U.S.P., cans	lb.	.61	—
Fennel, U.S.P., tins	lb.	3.00	—
Geranium, African, cans	lb.	3.25	3.50
Bourbon, tins	lb.	3.25	3.50
Turkish	lb.	2.75	Nom.
Hemlock, tins	lb.	1.00	1.25
Lavender, U.S.P., cans	lb.	2.30	5.25
Spike, Spanish, cans	lb.	1.05	Nom.
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	.65	.70
Linaloe, Mex., cases	lb.	1.50	1.60
Nutmeg, U.S.P., tins	lb.	1.80	1.85
Orange, Sweet, W. Ind., tins	lb.	2.45	2.50
Italian cop	lb.	3.00	3.75
Distilled	lb.	.90	—
California	lb.	1.50	—
Origanum, cans, teach	lb.	1.60	1.65
Patchouli	lb.	4.25	4.75
Pennyroyal, dom.	lb.	2.15	Nom.
Imported	lb.	2.75	Nom.
Peppermint, nat., cans	lb.	2.75	3.00
Redis., U.S.P., cans	lb.	3.00	3.25
Petitgrain, S. A., tins	lb.	1.00	Nom.
Pine Needle, Siberian	lb.	1.25	1.30
Rosemary, Spanish, tins	lb.	.75	.80
drums	lb.	.70	.75
Sandalwood, E. Ind., U.S.P.	lb.	5.25	Nom.
Sassafras, U.S.P.	lb.	1.10	—
Artificial, drums	lb.	.75	—
Spearmint, U.S.P.	lb.	2.00	2.10
Thyme, red, U.S.P.	lb.	1.10	—
White, U.S.P.	lb.	1.15	—
Vetivert, Bourbon	lb.	6.00	18.00
Ylang Ylang, Bourbon	lb.	2.50	3.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	\$1.30	\$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.05	1.15
Benzaldehyde, tech.	lb.	.55	.60
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.85	Nom.
Eugenol, U.S.P.	lb.	2.25	3.30
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	2.50	4.15
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	3.30
Linalyl Acetate	lb.	2.50	2.75
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylene	lb.	1.05	1.20
Phenylaldehyde	lb.	2.10	3.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.50	3.35
Rhodinol	lb.	5.55	10.80
Safrol	lb.	.70	.75
Terpineol, C. P., 1000 lb. drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans	lb.	.77	.80
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.65
Yara Yara	lb.	1.25	1.55

Insecticide Materials

Insect Powder, bbls.	lb.	.35	.37
Pyrethrum Extract			
5 to 1	gal.	1.80	1.85
20 to 1	gal.	6.75	7.00
30 to 1	gal.	10.15	10.25
Derris, powder—4%	lb.	.18	.24
Derris, powder—5%	lb.	.24	.30
Cube, powder—4%	lb.	.20	.22
Cube, powder—5%	lb.	.24	.26

Gums

Arabic, Amb. Sts.	lb.	.24	Nom.
White, powdered	lb.	.27	Nom.
Karaya, powdered No. 1	lb.	.14	.23
Tragacanth, Aleppo, No. 1	lb.	2.50	Nom.
Flake	lb.	No Prices	

Waxes

Bees, white	lb.	.37	.39
African, bgs.	lb.	.30	.30½
Refined, yel.	lb.	.31	.36
Candelilla, bgs.	lb.	.18	.19
Carnauba, No. 1	lb.	No Prices	
No. 2, N. C.	lb.	No Prices	
No. 3, Chalky	lb.	.43	.44
Ceresin, yellow	lb.	.10½	.12½
Paraffin, ref., 125-130	lb.	.0675	.0680

SUDS BUILDING.... THE ROLE PLAYED BY SILICA

Upper left: Jars containing water and small amounts of soap—immediately after shaking. **Lower left:** A few seconds later—suds disappeared. **Below:** On shaking, after addition of caustic to the left jar and silicate to the right jar, suds rose to cap in right jar and remained stable.



THE SUPERIOR sudsing effect obtained with PQ Silicates has been well known for decades. It's the soluble silica content that has proved the detergent and soap manufacturer's trusty aid. For greater efficiency, greater economy, greater usefulness under a wide variety of soil, water and temperature conditions, leading manufacturers rely on the soluble silica in PQ Silicates.

Irrespective of other ingredients used, more sudsing action can be secured in the presence of soluble silica. The photo above illustrates the comparative sudsing of a PQ Silicate and another alkali.

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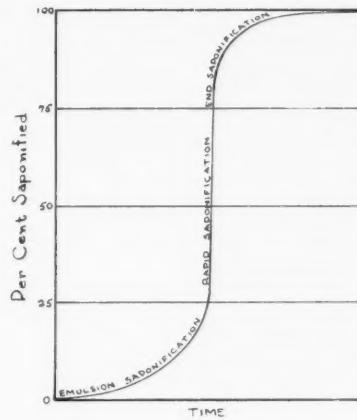
A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Speeding Up Saponification

IN MAKING soap by the boiled process, a dilute or medium-concentrated solution of caustic soda is used. Since fats and lye are neither soluble in one another or very easily emulsified one with the other, the first requirement of the soap boiler is to bring about intimate contact of the two phases by the formation of an emulsion. Soap when formed is of course among the strongly emulsifying substances. It is therefore a great aid to see that some soap is present in the kettle at the beginning of the saponification, or that soap is quickly formed by the use of some free fatty acid in the mixture.

The first period of reaction has been designated as emulsion saponification. The contents of the kettle form a heterogeneous mass with the phases brought into close contact only by constant motion. During this period saponification proceeds very slowly. In the accompanying graph which gives the curve showing speed of saponification with time, the introductory period is illustrated by the flat part of the curve at the bottom. The curve for emulsion saponification gradually increases in slope in accordance with an increase in the speed of reaction. This is explained by the increasing amount of soap formed which emulsifies larger and larger amounts of fat, increasing the area of contact surface between fat and lye.

With progressive emulsion sa-



ponification, a point is reached in which the kettle contents suddenly change in appearance. The mass which was heretofore visibly heterogeneous, becomes at once homogeneous. With this transformation, called the production of association or homogeneity, emulsion saponification ends and the second period of reaction, the rapid saponification, begins.

The fundamental change which occurs in the soap kettle depends on the property of soap of dissolving fat. When the amount of soap formed by emulsion saponification becomes great enough, the emulsion disappears and fat and lye dissolve in the soap. This homogeneity appears when 10-20 per cent of the fat is saponified. Certain conditions are necessary for the process to take place. Although soap is water-soluble, it is insoluble in moderate concentrations of salt

or alkali solutions. The maximal concentration in which soap is soluble might be called its "lye limit" value. Each soap possesses a definite and characteristic value for its lye limit. Homogeneity occurs only when the lye in the soap kettle is at a lower concentration than the limit value of the soap formed. The following table contains the limiting values for various soaps, expressed in degrees Baume.

Soap from	Limiting Value in NaOH
Linseed oil	9° Be.
Soybean oil	8.5
Cottonseed oil	8
Peanut oil	7.5
Olive oil	7
Sulfur oil	11
Palm oil	7.5
Lard	8
Beef tallow	7
Coconut oil	23
Palm kernel oil	19

Sometimes the production of homogeneity is difficult when the emulsion saponification proceeds slowly and little soap is formed, or when the lye is too concentrated. In the first case the reaction can be accelerated by addition of soap, in the second case by dilution of the lye or by letting the kettle contents stand for a time. In the latter case the excess lye settles to the bottom permitting the action to proceed in the supernatant emulsion layer, when the concentration of lye decreases and quickly reaches a value below the limiting concentration.

As the name indicates, rapid

saponification is distinguished by a high speed of reaction. As the graph shows, this part of the saponification curve shows a steep rise which is almost a straight line. That indicates that during this period of reaction, the rate is constant. This high rate of reaction during rapid saponification is actual. A few minutes are sufficient to bring about a high degree of saponification. If at this stage gradually fresh amounts of fat and lye are added simultaneously to the mass, these will be almost completely saponified when mixed in the kettle, without the soap changing its appearance.

Rapid saponification is accompanied by the evolution of heat. The amount of heat evolved has been calculated as about 65 calories per kilogram of saponified fat. If after the appearance of homogeneity in the soap kettle large amounts of fat and lye are added, the heat produced can lead to undesirable results such as spouting up of the contents, running over, etc. This can be avoided by reaching the associated or homogeneous stage with only small amounts of fat and lye, then making gradual additions of the two ingredients to carry on the reaction.

Trouble from two important causes may occur during rapid saponification. The first is from excessive addition of lye which causes salting out of soap because of its insolubility in concentrated lye. The condition can be avoided or corrected by addition of more fat. The second arises from the presence of too much fat. The mass then forms clumps, becomes viscous and is difficult to stir. In this case more lye has to be added carefully. This is not always easy of accomplishment, since the high viscosity of the mass makes its mixing with lye difficult, and since the clumps dissolve very slowly, several hours boiling may be necessary before they disappear completely.

When the addition of fat and lye is finished, the contents of the kettle have the appearance of a finished soap mass. Analysis shows however the presence of small amounts of neutral fat whose complete saponi-

fication necessitates longer boiling. The curve corresponding to this condition flattens out and becomes nearly parallel to the abscissa. This last reaction period is the "end saponification" which proceeds slowly because the fat concentration in the soap becomes so small. Fat molecules apparently become enclosed in the soap micelles and dissociate from these very slowly.

Soap qualifications for a satisfactory product require that the content of unsaponified fat be less than 0.1 per cent. Under normal conditions and with the reaction properly speeded up, this limit can be reached by a boiling period of 1-2 hours after the last fat addition. Some soap boilers make the mistake of continuing boiling for several hours or even days to make sure of complete reaction. Check analyses would in most cases result in the saving of much time and steam. End saponification is not as slow as many soap makers generally believe. One must consider that small amounts of fat can be saponified by the alkalinity of the mass even when the kettle is at rest, e.g. 0.1 per cent of free caustic soda will saponify 0.6-0.7 per cent of fat. L. Lascaray. *Fette und Seifen* 46, 533-5 (1939).

Separation of Fatty Acids

On passing solutions containing two or more fatty acids through columns of adsorptive materials such as alumina cream or silica gel, certain fatty acids are more strongly adsorbed than others. This makes possible a partial, or under suitable conditions a complete separation. Experiments with benzene solutions containing mixtures of saturated fatty acids such as palmitic, myristic, stearic or lauric, and unsaturated fatty acids such as oleic, linoleic, olearic, and such natural mixtures as whale-oil fatty acids, and linseed-oil fatty acids, showed that alumina cream preferentially adsorbs the saturated acids, and from mixtures containing only saturated acids, the acids of higher molecular weight are adsorbed. Silica gel is less effective than alumina cream in adsorbing

saturated fatty acids from solutions of fatty-acid mixtures; animal charcoal is more effective than alumina cream. With silica gel, an acid of lower molecular weight was preferentially adsorbed from trichloroethylene solutions of stearic and oleic acids, and of stearic and lauric acids.

Applications of such adsorption methods include the analysis of fatty-acid mixtures and the commercial processing of fatty-acid mixtures to isolate more valuable fractions. H. P. Kaufmann. *Fette und Seifen* 46, 268-73 (1939).

Stability of Emulsions

The technical development of emulsion formation is in advance of theory. Even the most fundamental quality of emulsion stability is undefined, misunderstood, and at best regarded as a vague, empirical concept, while at the same time it is of the utmost practical importance. A comprehensive research on the stability of emulsions was undertaken with a view to defining stability and giving it a quantitative significance.

By means of the size-frequency technique a large number of emulsions were examined and the distribution of their globules measured. In general these globules become coarser with time, but in the case of homogenized emulsions, particles larger than 7.5μ coalesce and appear as free oil. The total area of interface per gram of emulsified oil has been calculated and found to decrease linearly with time; the reciprocal of this decrease is defined as emulsion stability. The mechanical method of emulsification influences both degree of dispersion and stability.

In general, soaps form fine, but not very stable emulsions. Sodium and potassium soaps of the same fatty acid possess an emulsifying efficiency of the same order; ammonium soaps are inferior. Oleates are more efficient than stearates, and much more efficient than palmitates. Kerosene and olive oil emulsions are similar in constitution. A. King and L. N. Mukherjee. *J. Soc. Chem. Ind.* 58, 243-9 (1939).

Products and Processes

Solid Potash Soap

Potassium soaps were prepared in the cold or at low temperatures containing 65-66 per cent of fatty acids. The soaps were made from hard fats, were solid, soluble, foamy and not injurious to dyes or to fibers. Because such soaps were hygroscopic, they had to be wrapped in parchment paper. J. Grosser. *Ceskoslov. Mydlar Vonavkar* 15, 100-2; through Chem. Abs.

Carpet-cleaning Composition

A carpet-cleaning mixture is formed from 100 parts of buckwheat flour, 24 of a light petroleum cleaning oil, 2 of a water insoluble stearic acid soap such as that of aluminum, 2 of salicylic acid, and 60 parts of water. Clair W. Studer, Roy G. Roshong and Marie Miller, to Hoover Co. U. S. Patent No. 2,165,586.

Filled Soap

A soap with a fatty acid content of 40-45 per cent can be prepared by the semiboiled process from fatty acids but not from neutral fats. The fatty acids are usually those from coconut or palm kernel oil, tallow etc., a suitable composition being: 35 parts of palm kernel fatty acids, 9 of tallow fatty acids, 36 parts of 33°Be. caustic soda solution, 15 of 38°Be. sodium silicate and 5 parts of 24°Be. potassium carbonate solution. *Seifensieder-Ztg.* 66, 742 (1939).

Modified Synthetic Soaps

Synthetic soaps made from fatty acids obtained by the oxidation of high-molecular nonaromatic hydrocarbons, can be improved as to foam stability by incorporating with them 1 or more of the following types of compounds: Pyrophosphates, secondary orthophosphates, metaphosphates, hexametaphosphates and sesquicarbonates, of the alkali metals or of ammonia and borax. The salts or salt mixtures are added to the preparations or their solutions in amounts

from 1 to 50 per cent with reference to the soap content.

Of a preparation consisting of a soap of synthetic fatty acids and 25 per cent of the weight of soap of sodium carbonate, about 3 grams per liter of washing liquid are required to produce a stable foam. Of a preparation in which 20 per cent of carbonate and 5 per cent of sodium pyrophosphate are present instead of 25 per cent of carbonate, only 1.1 grams per liter of washing liquid are required to produce lather of the same quality and stability. Standard Oil Development Co. and I. G. Farbenindustrie A.-G. British Patent No. 509,730.

Brushless Shave Cream

A nonvanishing brushless shaving cream consists of a plastic emulsion of oleaginous and aqueous materials together with 0.1-5 per cent of a phosphatide such as lecithin. Wolf Kritchevsky, to Rit Products Corp. U. S. Patent No. 2,164,717.

Sulfonated Amides

Products useful as cleansing and dispersing agents are obtained by condensing a primary or secondary amine, containing at least 1 higher aliphatic radical, with a carboxylic acid of low molecular weight containing a sulfonic group. Derivatives of such carboxylic acids may also be used. I. G. Farbenind. A.-G. German Patent No. 677,013.

Sulfonated Textile Agent

An aromatic hydrocarbon is treated with a sulfonating agent and the reaction product containing crude monosulfonic acid and excess sulfonating agent is caused to react below 50°C. with an aliphatic or hydroaromatic compound that contains an unsaturated bond or a hydroxy group and more than 10 carbon atoms. The product is neutralized and may be

used in the textile, leather, and cosmetic industries. Solvents such as hydrocarbons and halohydrocarbons may be used in the sulfonation process and when retained in the final product they increase the cleansing properties. In an example, naphthalene is sulfonated with oleum and condensed with sperm oil alcohols. Ryoji Kimbara. British Patent No. 502,964.

Oxygen in Soap Powders

Active oxygen present in soaps containing sodium perborate can be estimated as follows: Weigh 2 grams of finely ground soap, cover with 20 cc. of dilute sulfuric acid and disperse as evenly as possible throughout the acid. After about 10 minutes titrate with a standard solution of potassium permanganate to the first pink color. After a further 10 minutes shake with carbon tetrachloride and titrate to the usual color change. The use of permanganate in the second titration is important. From the total amount used the content of active oxygen is calculated. If the soap sample is sufficiently finely divided to start with and well stirred with the acid, the above procedure should be satisfactory. Clemens Bergell. *Seifensieder-Ztg.* 66, 750-1 (1939).

Distillation of Glycerine

An arrangement of apparatus is described and a method of promoting the distillation of glycerine with the aid of open-jet steam discharged in the body of glycerine. The hot glycerine vapors are brought into indirect contact with water free from objectionable volatile impurities, to effect simultaneous condensation of glycerine and generation of steam from the water. Martin H. Ittner to Colgate-Palmolive-Peet Co. U. S. Patent No. 2,164,274. U. S. Patent No. 2,164,275 relates to apparatus for distilling glycerine in a still having closed steam coils to furnish heat for the volatilization of the glycerine, a boiler-condenser connected to the still for receiving and condensing glycerine and for the generation of steam from boiling water by utilization of the heat of condensation from

the condensing glycerine. U. S. Patent No. 2,164,276 relates to an apparatus for the distillation of glycerine with the aid of open-jet steam under diminished pressure, including condensation and concentration of the glycerine with the aid of a cooling liquid, the condenser-concentrator having an inlet for the vapors of the glycerine and steam at the bottom and an outlet for uncondensed steam etc. at the top, and means for supplying a cooling liquid in its upper part.

Color of Soft Soap

Paste soap made from bleached linseed oil and refined soybean oil should not be darker in color than a honey yellow if made from neutral oils rather than fatty acids. If the color is darker than expected on the basis of the original color of the oils, it may be traced to contamination by iron from the kettle or sometimes to a partial reversal of the preliminary oil bleaching. If necessary the soap can be treated with a 12 per cent solution of sodium or potassium hypochlorite solution at 50-55°C. This bleach gives the best result with paste soap, being preferable to potassium persulfate. *Seifen-sieder-Ztg.* **66**, 706 (1939).

Triethanolamine Soap

A liquid soap is made from free fatty acids, using triethanolamine as the alkali, as follows:

Parts

Distilled oleic acid.....	110
Coconut oil fatty acids.....	80
Triethanolamine, distilled.....	100
Alcohol, denatured.....	15
Distilled water.....	95

Such a liquid soap is suitable for use as a shampoo. *Fette und Seifen* **46**, 461-2 (1939).

Dual Sand Soap

Ordinary lathering soaps do not have sufficient cleansing action for very dirty hands, while soaps containing ample sand often lack lather-producing properties. A new soap tablet combines the advantages of both and is suitable for cleaning dirty hands. The soap cake consists of two parts, one of lathering soap and one of sand-containing soap.

The sand soap is located in a depression formed in one of the large sides of the other soap. The two parts are made a solid entity by means of a waterproof adhesive. It is possible when using the soap to use the lathering soap or the sand soap alone. Jacol Egli and Martin Staubli. British Patent No. 512,789.

Soap for Paint Surface

A soap which is suitable for use on painted surfaces is prepared by saponifying a fatty material in the liquid state, such as coconut oil, with waste sulfite lye derived from the cellulose industries together with freshly prepared caustic soda lye. Carl Leyst-Kuchenmeister. U. S. Patent No. 2,158,663.

Fatty Acid Mixtures

Fatty acid mixtures can be separated to some extent by purely physical means. For this adsorption by alumina cream is used. Whale oil fatty acids were prepared in the usual way and the iodine number of the fatty acids found to be 110.9. Ten grams of the fatty acids were dissolved in 50 cc. of benzol and filtered through 30 grams of a column of alumina cream. The filtrate was caught in three portions. The column of alumina cream was separated into two parts and elution of fatty acids made by means of acetone, partly with warm acetone. The iodine numbers of the resulting fractions of fatty acids were as follows:

	Iodine number
Original fatty acids.....	110.9
Upper part of column.....	92.3
Lower part of column.....	99.5
First filtrate.....	184.6
Second filtrate.....	134.5
Third filtrate.....	117.9

The first filtrate shows an increase in iodine number of 74 units, the most highly unsaturated fatty acids being the least adsorbed.

The method offers possibilities for a simple separation of highly unsaturated fatty acids from a naturally occurring mixture. Adsorption thus offers a means of studying the nature of technical fatty acids and forming an idea of their ingredients. It offers possibilities for the

preparation of edible fats. H. P. Kaufmann. *Fette und Seifen* **46**, 268-73 (1939).

Bleached Soap

A neutral bleached soap is obtained by adding tartaric or citric acid, as well as boric acid, to solid or soft soap. In an example, 1.5 kg. of boric acid and 100 grams of tartaric acid are added to 1000 kg. of soap. Carl Erwin Rost. German Patent No. 671,332.

Special Liquid Soap

A soap containing sulfur is made by adding to a liquid soap at ordinary temperatures polysulfides in an amount such that the soap remains liquid after the treatment. Carl Blank K.-G. *Verbandpflasterfabrik*. French Patent No. 839,776.

Sodium Naphthalene Sulfonate

For the preparation of sodium naphthalene sulfonate, $C_{10}H_7SO_3Na$, melt 260 parts of naphthalene in a steel vessel fitted with a stirrer and heat with indirect steam to 165°C. Add 280 parts of sulfuric acid, (sp. gr. 1.84), gradually during the course of half an hour. With constant stirring warm for 1 hour each at 165°, 167°, 170° and 175°C. Cool and pour onto about 1800 parts of ice, neutralize with lime. Change the calcium salt formed into the sodium salt with soda ash or Glauber's salt, filter off the gypsum and evaporate the filtrate. The constantly stirred stiff mass is filtered by suction and pressed out under a high pressure. *Seifen-sieder-Ztg.* **66**, 752 (1939).

Soap-wrapping Material

A sheet of wrapping material such as paper is provided on one side with a heat-sealing coating such as paraffin, and on the other side with a moisture-, acid- and alkali-resistant coating of vinyl resin composition. Such wrapping material is adapted to prevent the emission of constituents from the wrapped soap. J. H. Jorling. U. S. Patent No. 2,163,228.

Offer New Specifications at ASTM Soap Committee Meeting

A PROPOSED new specification for salt water soap was among the important topics discussed at a meeting of Committee D-12 on Soaps and Detergents of the American Society for Testing Materials held at the Hotel New Yorker, New York, November 2nd and 3rd. The specification provides that such soap be made from pure coconut oil, pure palm kernel oil or a mixture of the two, and that it shall be soluble in and lather in sea water as well as fresh water. The following requirements are set down as to chemical composition:

	Maximum	Minimum
Moisture and matter volatile at 105°C.	55	—
Matter Insoluble in alcohol	3	2
Free alkali, calculated as Sodium Hydroxide (NaOH)	0.5	—
Matter Insoluble in Water	0.5	—
Chloride, calculated as Sodium Chloride (NaCl)	3	2.5
Anhydrous Soap	—	40
Rosin, Sugar and Foreign Matter	—	None
Acid number of mixed fatty acids	—	240

The percentage volatile at 105°C shall be calculated on the basis of the soap as received, but all other constituents shall be calculated on the basis of material containing 55 per cent of matter volatile at 105°C.

There were over fifty committee members present at the two-day session and all indicated deep interest in the progress of the committee's work over the past six months. Palm oil soaps, both pure and blended, and low titre soaps were discussed exhaustively. A division of opinion was indicated on the point as to whether one specification should cover both pure and blended palm oil soaps, or whether two are needed. It was reported that 80 per cent of the solid palm oil soap used in textile work is made from palm oil blended with other oils, while only 20 per cent of the palm oil chip soap used in textile work is so blended. The consensus of those present was

that any blended palm oil soap should contain at least 50 per cent palm oil to be properly called a blended palm oil soap.

With reference to the various new detergents, sulfonated oils, etc. on the market, it was considered rather impossible to write chemical specifications. Instead performance tests are being investigated. Proposed specifications for tetrasodium pyrophosphate and sodium sesquicarbonate were also suggested for study and consideration at the spring meeting.

There was a long discussion of the proposed monograph on the use and testing of soaps and other detergents, some feeling that it was too soon to begin writing, while others believed that a start should be made at once. The final decision was to write up published material on caustic soda for the committee's consideration in the spring. Liquid soaps were also discussed and specifications will probably be considered at the spring meeting.

Detergent Types

Modern detergents are classed as: (1) anionic types, those containing the surface-active radical as a negatively charged anion, and (2) the nonionic type. In (1) are contained carboxylic soaps, new soaps, the alkyl and alkaryl sulfonic and other acids, and the blocked-carboxylic type such as solubilized alcohols, amides and esters. The second group is represented by the polyglycerine esters and the Igepals. A. E. Hulme. *Textile Recorder* 57, 40-1.3 (1939).

Catalyst Manufacture

An improvement in the process of preparing catalysts suitable for the hydrogenation of oils comprises boiling a carbonate of a metal such as nickel, iron, cobalt or copper, in the presence of an alkaline solution

until the combined carbonate is reduced to less than 15 per cent of the metal content. The volume of a sample of the precipitate, when filtered with suction on a Buchner funnel, should be more than 9 cc. per gram of metal content. The metallic carbonate is separated, dried, and subsequently suspended in oil. It is then subjected to reducing conditions with hydrogen in the presence of alkali carbonate, hydroxide or oxide, or such compound of an alkali earth metal, equivalent to 0.1-2 per cent of sodium carbonate based on the metal content of the metallic carbonate. Procter & Gamble Co. of Canada, Ltd. Canadian Patent No. 384,457.

Fat Stabilizing Agent

Oils, fats and other compounds subject to oxidation are stabilized by the addition of a small amount of a compound of the formula $RCOO-(CH_2)_xN(R^1)R^2$, where R is hydrogen, alkyl, alkylene or aryl which may be substituted by hydroxyl, alkoxy, alkyl or amino groups. R¹ is an alkyl group not containing more than 3 carbon atoms, R² is hydrogen or an alkyl group not containing more than 3 carbon atoms, and x is 1, 2, 3 or 4. An example of such a stabilizer is gamma-diethylaminopropyl propionate. Theodor Sabalitschka and Erich Bohm. French Patent No. 839,514.

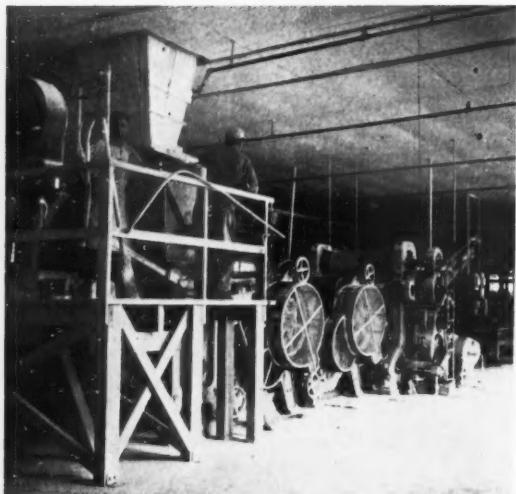
Glycerine Treatment

In separating a mixture of glycerine and water by fractionation, the steam laden with glycerine is passed into a mechanical separator, such as a centrifugal separator, prior to entry into the condenser. Karl Muller and Volkmar Hanig & Comp. German Patent No. 674,525.

Improved Fats

Oils, fats and fatty acids are transformed into esters of elaidic acid by treatment with the acid in the presence of selenium. The products are improved fats or oils. N. V. Nederlandsche Research Centrale. German Patent No. 674,752.

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Fatty-acid Determination

Fatty acids can be determined in soaps containing methyl cellulose by the following procedure: Weigh 10 grams of soap into a 250 cc. flask, dissolve in water and add about 10 cc. of concentrated hydrochloric acid. Boil for 15 minutes under a reflux condenser than transfer to a separatory funnel. Let cool, add 70 cc. of ether and shake. Draw off the water layer, filter the ether solution, washing the separatory funnel and filter with a little ether. Distil off the ether, evaporating off the last traces and determine the residue of fatty acids in the usual way. Bruno Schulz. *Seifensieder-Ztg.* **66**, 327 (1939).

Fat Splitting Equipment

A research unit is now in operation in England by W. J. Fraser & Co. Ltd., to study typical high-temperature operations including those of fat-splitting, the preparation of glycerine of high quality, and fatty acid distillation. The object is not only to study the course of such processes, but to perfect the technique of high-temperature plant construction. Saturated steam is usually the most suitable means of heat supply up to 200°C. A convenient method of heat transfer for 210-400°C. is by means of Dowtherm, whose composition is 26.5 per cent diphenyl and 73.5 per cent diphenyl oxide.

A specially designed autoclave for fat-splitting is made throughout of stainless steel and also has a stainless steel jacket. The unit is designed to operate at an internal working of 400 pounds per square inch and with a pressure of 50 pounds

per square inch in the jacket for either steam or Dowtherm. With the latter this will give a temperature range of 200-340°C. in the jacket.

An evaporator to produce high-grade glycerine is designed so as to give accurate control of the condensing temperatures. For this process the still is connected to a dual condensing system comprising an evaporative condenser and a hot water condenser, both of which are fabricated from stainless steel and designed to offer the minimum friction flow to the hot vapors. High-grade glycerine has been produced in a single-stage distillation. The substitution of a single-stage for a two-stage distillation undoubtedly leads to much greater economy in working. It is claimed that the amount of steam which has to be injected during this operation can be greatly reduced, if not eliminated altogether. Accurate control of heating, the very high vacuum (0.5 mm.) under which it is possible to operate the evaporator, and the specially controlled condensing arrangements are all factors in the production of a high-grade glycerine in a single operation. *The Industrial Chemist* **15**, 383-7 (1939).

Dry-cleaning Wool

Probably 90 per cent of the tar and paint spots left on wool fleece from the branding of sheep is removed in wool scouring and subsequent operations. The 10 per cent remaining can make an enormous amount of specks on light flannel. Literally thousands of compounds have been used with and without soap in wet-finishing operations for the removal of these specks. Many of these have led to uneven color effects. The problem appears to be solved most satisfactorily and economically by the introduction of a special dry-cleaning step with trichloroethylene. A suitable apparatus for this dry-cleaning treatment has been developed and is described in detail. Practical advantages resulting from its use indicate its economy in the long run. Roland E. Derby. *Am. Dyestuff Reporter*, **28**, P520-9, P537-8 (1939).

Alkaline Washing Agents

The washing of cotton and linen goods is advantageously carried out with the aid of alkaline salts. Soda ash has been much used for this, but silicates offer special advantages. Chemically, only solutions of equal molecular concentrations can be compared. Experimental results on this basis indicate that the ratio of efficiency of sodium metasilicate to soda ash is 4:1. This means that 1 molecule of sodium metasilicate has as strong detergent action as 4 molecules of soda ash. Sodium metasilicate had no greater deteriorating effect on cotton than soda ash, after 50 washings, as determined by the tensile strength of the washed materials. Clemens Bergell. *Seifensieder-Ztg.* **66**, 720 (1939).

Unsaponifiable Matter

In the determination of the unsaponifiable matter in fats and oils it is important that no saponifiable components are extracted. Solutions of stearic, oleic and palmitic-acid soaps were extracted with ether. The ether extracts were washed with water. No ash was found in the extract, which however, contained free fatty acids. The content of fatty acids increases by washing with water owing to hydrolysis of the soap residues on the glass walls of the separatory funnel. Harold W. Weedon. *Arsberetn vedkom. Norg. Fiskerier* **1936**, No. 3, 47-9 (1939); through Chem. Abs.

Soap Particle Formation

In British Patent No. 504,118, the temperature of the superheated steam is maintained above the melting point of the anhydrous soap, the reaction being effected in a retort at subatmospheric pressure. In apparatus described, the soap particles are fed by a rotary hopper into a chamber beneath the report that is filled with inert gas at a temperature below the melting point of the soap, the soap being thereby separated into particles that harden as they fall to the bottom of the chamber. Lorenz Patents Corp. British Patent No. 504,117.



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641—Gale Liquid Conditioner

Gale Products Co., New York, is manufacturing a liquid conditioner which is said to eliminate the loss of



lubricants, fuel oil, or oily substances when these are used in various manufacturing processes. As a rule, these oily substances are lost by leakage, drippings and seepage and eventually find their way into sewage. The company claims, however, that by treating the discarded liquids in a plant with the "Gale Conditioner" the above substances may be reclaimed. The Conditioner separates liquids having different specific gravities or floatable solids, can operate continuously and has a wide range of capacities. The equipment works by gravity and has no moving parts.

642—New Four-Speed Crutcher

Huber Machine Co., Brooklyn, is now producing a new model of the Electro Perfection Crutcher which has four forward speeds in place of

the usual two. Novel results are said to be possible with the new crutcher which is particularly interesting to soap makers willing to experiment and see what they can produce with the added flexibility of the four-speeded machine. Four speeds on a center screw crutcher, says the maker, gives an opportunity to produce interesting results. At the same time it permits a duplication of crutching technique if results not previously possible develop.

643—New Insecticide Sprayer

Ellis Davidson Co., New York, is marketing a new electric insecticide sprayer known as the "Pest-O-Lator." It is recommended for use in hotels, apartments, office buildings, factories, etc. It is made of copper, and chromium-plated throughout. Folders describing and illustrating the sprayer are available.

644—Drum Chime Reshaper

Zetterlund Engineering Works, Milwaukee, is in production on several types of barrel and drum chime straighteners. They are said to reshape chimes quickly, saving many hours of hand straightening, and can restore even badly battered drums.

645—Drum Faucets

Steel Barrel Fittings Co., New York, is manufacturing drum faucets with $\frac{3}{4}$ " Briggs straight threads, known as "Consolidated." These faucets are of straight shank and are claimed to be advantageous over the older tapered shank faucets, which sometimes disrupt the threads on drum flanges and cause leakage. The "Consolidated" faucets are of cast iron with plain finish, or copper or cadmium-plated.

646—Disk Filter Bulletin

International Filter Co., Chicago, has just published a new bulletin, No. 1600, on "International" disk filters, their applications, opera-

tion and construction. These filters are said to remove all of the suspended matter without affecting the color, odor, taste or any of the soluble constituents of the liquid. Copies are available.

647—Package Machinery Folder

Package Machinery Co., Springfield, Mass., has just issued a new folder stressing "point-of-sale-appeal," and containing several illustrations and descriptions of the company's latest wrapping machines. Copies are available.

648—Glycerine Booklet

The research laboratories of the Glycerine Producers Association, with headquarters in Chicago, have published a 24-page booklet on glycerine and its derivatives. Half of the book is devoted to a short history of glycerine, its uses, properties, etc., while the other half covers the glycerine derivatives, giving formulas, properties and suggested uses. Copies of the booklet are available.

649—Insecticide Spray Folder

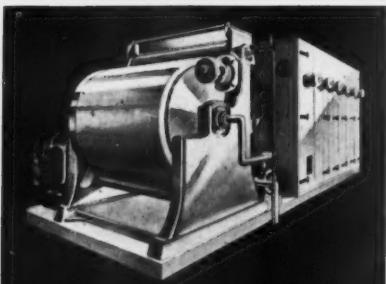
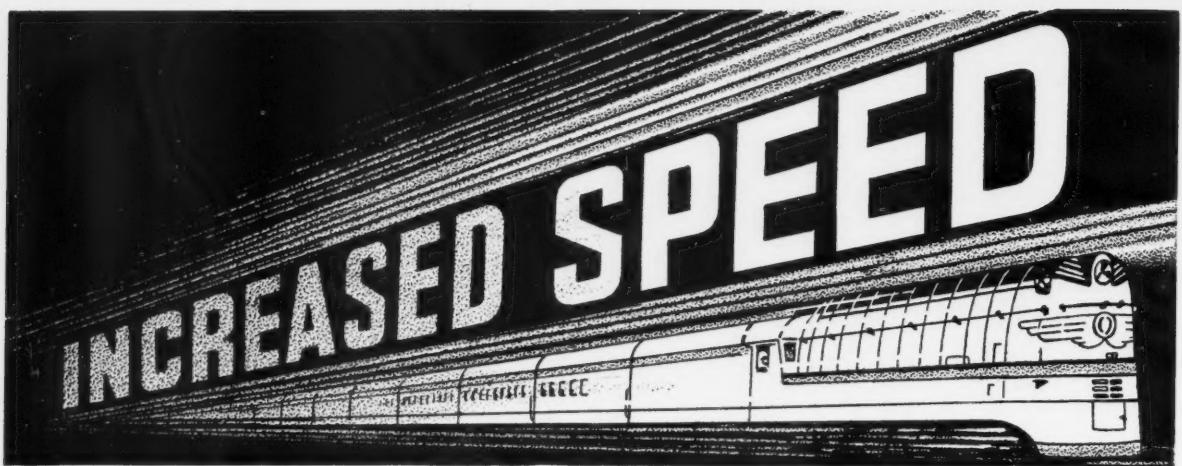
Associated Chemists, Inc., Chicago, are distributing a folder containing information about their new insecticide concentrate "Hi-Tox 20," which is a synthetic concentrate based on the esters of carboxilic acid. The inner two pages of the folder contain Peet-Grady reports on "Hi-Tox 20" when diluted 5 per cent and 6 per cent.

650—Nickel Catalyst Booklet

Rufert Chemical Co., New York, has issued a booklet entitled "A Study of the Control of Nickel Catalyst," which is reprinted from a paper recently read before the American Oil Chemists Society at Chicago. Copies of the booklet are available to *Soap* readers.

651—D. & O. Price Catalog

Dodge & Olcott Co., New York, has just issued a new wholesale price list consisting of 28 pages. Two pages are devoted to a description of the company's various insecticide materials. Copies are available.



In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

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No. 2,175,109. Insecticide. Patented October 3, 1939 by Houston V. Claborn and Lloyd E. Smith, Washington, D. C.; dedicated to the free use of the People of the United States of America. An insecticide containing as its essential active ingredient 9-chlorofluorene.

No. 2,175,285. Detergent for Toilet Use, Patented October 10, 1939 by Robert A. Duncan, Wyoming, Ohio, assignor to the Procter & Gamble Company, Cincinnati, Ohio. A detergent in bar form substantially free from soap containing predominantly a mixture consisting of more than 5 per cent but not more than 60 per cent of a saturated super-glycerinated fat having at least 12 carbon atoms in the fatty acid radical and not less than about 40 per cent of a substantially solid water-soluble salt of a compound from the group consisting of the following, in all of which the alkyl radical contains more than eight carbon atoms: sulfonated aliphatic alcohols, sulfated aliphatic alcohols, sulfonated aliphatic hydrocarbons, sulfated aliphatic hydrocarbons, fatty acid esters of hydroxy ethyl sulfonic acid, fatty acid amides of methyl amino ethyl sulfonic acid, fatty acid esters of dihydroxy propyl sulfonic acid and alkyl ethers of dihydroxy propyl sulfonic acid.

No. 2,175,781. Sodium Silicate Detergents, Patented October 10, 1939 by Walter S. Riggs, Haddon Heights, N. J., and Clarence W. Burkhart, Lansdowne, Pa., assignors to Pennsylvania Salt Manufacturing Company, Philadelphia, Pa. The process of making a sodium silicate-containing

product capable of use as a detergent comprising a reaction product whose molecular ratio of Na_2O to acidic oxide is from approximately 1 to 1 to 2 to 1, which comprises mixing together, in the absence of sufficient water to dissolve a substantial portion of the reactants, a sodium sub-silicate containing a higher molecular ratio of Na_2O to acidic oxide than 1 to 1 and higher than that of the product desired, and a sodium compound selected from the group consisting of water glass, sodium bicarbonate, monosodium phosphate, disodium phosphate, a sodium borate having a molecular ratio of B_2O_3 to sodium oxide greater than 1 to 1, the reactants being present in such molecular proportions that the ratio of Na_2O to acidic oxide of the reactants in the reaction mixture is approximately from 1 to 1 to 2 to 1, and reacting the sodium sub-silicate and the sodium compound while stirring the mixture to form the product.

No. 2,176,890. Stabilized Bactericide, Patented October 24, 1939 by Walter G. Christiansen, Glen Ridge, N. J., assignor to E. R. Squibb & Sons, New York, N. Y. A stabilized bactericide essentially comprising a slightly alkaline solution of a mercury derivative of a substituted phenol, and a colloid of the group consisting of gelatin, acacia, egg albumin, pectin, casein, lysalbinic acid, and protalbinic acid.

No. 2,177,055. Soap Composition, Patented October 24, 1939 by Helen M. Cranor, Plandome, N. Y. A toilet soap in cake form having smooth texture and good lathering properties and exhibiting pronounced deodorant action without the use of components deleteriously affecting the skin, the soap consisting of an approximately neutral soap in an amount of 90 to 70 parts by weight, and a deodorant consisting of sodium bicarbonate in an amount of 10 to 30 parts by weight, the amount of sodium bicarbonate being substantially less than that which would cause crumbling of the composition.

Foam Baths

The foam bath could never have come into such prominence without the use of the modern wetting and foaming agents of the fatty alcohol sulfonate, acid soap, and condensation-product types. These foam baths are usually marketed in the form of

a powder, a packet sufficient for one bath containing about 40-50 per cent of foaming agent and the rest filler such as dried soap ash or magnesium carbonate. There seems to be no reason why a really good liquid foam bath should not offer competition to these powdered products.

The foaming agent used is ordinarily one of the following:—A sapamine compound such as soaps of diethylaminoethyl lauryl amide, powdered and liquid fatty alcohol sulfates, condensation products of albumens with higher fatty acids (the lamepons), sodium cholate, and the saponins. To these may be added various inert filling materials such as anhydrous sodium carbonate, soluble starch, sodium sulfate, magnesium sulfate, skimmed milk powder, borax, sugars, powdered gums and gum substitutes.

In the compounding of liquid foam baths, gum mucilages, sodium alginate, sodium hexametaphosphate, diethylene glycol, sorbitol syrup, sulfonated oils, etc. may be experimented with, together with traces of lactic or adipic acid and any other materials likely to improve the volume of the foam or to ensure its stability. Chemical incompatibilities must of course be guarded against. In all types of foam bath preparations, effervescent combinations may be incorporated such as sodium bicarbonate in association with citric, tartaric, or better still, adipic acid. Powdered soap flakes should not be used because of the danger of the formation of lime soap and its adverse effect on foaming action. J. M. Vallance. *Manufacturing Perfumer* 4, 284-5 (1939).

Rice Oil

The C_{18} acids contained in the liquid acids of clear rice oil were investigated. Separation by the lead salt-alcohol method gave liquid acids of neutralization value 199 and iodine number 127. It was concluded that the liquid acids of clear rice oil are composed of about equal parts of oleic and linoleic acids. Sei-iti Ueno and Takeo Ueda. *J. Soc. Chem. Ind., Japan* 41, Suppl. binding 325-6.



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Terpenyl Compounds

Sulfonated terpenyl alkylphenols are prepared by (a) condensing a terpene with an alkylphenol containing at least 1 alkyl group of 3 or more carbon atoms and sulfonating the product, (b) condensing a terpene with a sulfonated alkylphenol containing at least 1 alkyl group of 3 or more carbon atoms, or (c) causing an alkyl chloride having at least 1 alkyl group of 3 or more carbon atoms to react with a sulfonated terpenyl phenol or with a terpenyl phenol followed by sulfonation. Acid condensing agents such as sulfuric acid, oleum, aluminum chloride, are preferably used to facilitate the condensation of the alkylphenols with the terpenes. The products have wetting, cleansing and emulsifying properties. They may be used for scouring wool and other textiles. In examples, propyl-, isopropyl, *p*-*tert*-butyl and *p*-*tert*-amyl phenols are condensed with α or β pinene and the products sulfonated and neutralized with caustic soda or ammonium hydroxide or with bases such as triethanolamine, pyridine or an alkalioid. Robert Zink, to Am. Cyanamid & Chemical Corp. British Patent No. 504,417.

Whale Oil Composition

The composition of whale oil in terms of fatty acids was carefully studied. The oil used was reddish yellow in color and showed the separation of a stearin portion at room temperature. It had a saponification value of 197.3 and a Kaufmann iodine number of 111.9. Its composition was 93.8 per cent of fatty acids of which 26 per cent were solid and 74 per cent liquid, 4.6 per cent glycerine and 1.6 per cent unsaponifiable matter.

The fatty acids belonged to the C_{14} to C_{22} series. Of the saturated acids, myristic, palmitic and stearic were isolated in pure form. Palmitic and myristic acids were the chief components in this group, stearic acid forming only a small part. The higher homologues were present only in traces. Of the acids of the oleic-acid series, tetra-, hexa-, octa- and

dodecenic acids were recognized, oleic acid being the more important. Fatty acids containing two and three double bonds such as linoleic and linolenic, were not found present. The highly unsaturated acids were from the C_{20} and C_{22} series. An acid of the C_{20} group containing 4 double bonds, and one of the C_{22} group containing 5 double bonds were present in small amounts. E. Glimm and K. Diese. *Fette und Seifen* **46**, 337-40 (1939).

Unsaturated Fat Components

In connection with the softness of lard and similar fats, or with the development of rancidity in them, the comparatively small amounts of the more unsaturated acids such as linoleic and highly unsaturated acids of the C_{20} and C_{22} series may play a more important part than the much larger proportion of oleic acid which is always present. The whole of the component fatty acids can be quantitatively determined by the ester-fractionation method, but this usually takes 17-20 days and involves lengthy calculations.

In a new method the mixed fatty acids from about 30 grams of fat are separated as lithium salts from acetone. The yield of ether-insoluble bromo additive products from the acids from the acetone-soluble lithium salts is determined, and from this the per cent of C_{20-22} acids is obtained. The iodine and thiocyanogen values of the acids from the acetone-insoluble lithium salts are determined, and from the results the total saturated, oleic and linoleic contents are found. The method, which can be carried out in 2-3 days, gives results agreeing with the much longer ester-fractionation procedure. T. P. Hilditch and W. H. Pedelty. *Analyst* **64**, 640-7 (1939).

Acetyl Value

In determining the acetyl value by the Cooke method on not more than 5 grams of oil, the acetylation, boiling with water, washing, and drying are conducted in a special apparatus consisting of a wide-mouth conical flask with a round bottom, which is provided with a ground-in reflux condenser; a small hemispherical depression is blown inside the bottom of the flask, and the tip of the short limb of a siphon tube is ground to fit this so that the siphon can be used to remove the aqueous waste liquors obtained when the acetylated oil is treated with water and washed. Finally the product is dried with anhydrous sodium sulfate, poured off and filtered for the saponification etc. F. Hawke. *J. S. African Chem. Inst.* **21**, 88-90; through Chem. Abs.

Viscosity and Unsaturation

If the viscosities of stearic, oleic, linoleic and linolenic acids and of some of their mixtures are plotted against the iodine values, straight lines are obtained. An equation was proposed for another relationship, that between refractive index and temperature. G. B. Ravich. *Colloid J. (U.S.S.R.)* **5**, 13-27 (1939); through Chem. Abs.

Abrasives

(From Page 26)

Precipitated chalk, one of the mildest abrasives known and widely used for dental and beauty preparations, is according to A. P. Wilson's excellent monograph, "a form of pure calcium carbonate, precipitated as a fine white microcrystalline powder. The particles assume shapes according to the details employed in the manufacture, but they always consist of either needles or rhomboids." The specific gravity of this chalk is 2.93 (Aragonite). The value of precipitated chalk depends for its value not only on the fineness of the crystals, but their respective shape and it is essential that Aragonite should predominate if the chalk is to have normal bulking properties. Although limestone as quarried is made up largely of Calcite (stable and rhombohedral crystal formation), the modern process of manufacturing precipitated chalk, such as the well known Sturge process, converts the final light chalk into Aragonite in which form it was originally formed by the marine organisms millions of years ago.

Powdered marble, sawdust, and wood pulp all possess slight abrasive action, but of a somewhat irregular type. They are principally valued on account of their filling action and are, therefore, mere adulterants. In conjunction with ground silica, and other harsh abrasives, they do tend to reduce the "biting" effect of the hard crystals by mere dilution and are, perhaps useful in this respect. The presence of cellulose is not recommended and may, in fact, cause trouble due to the gradual disintegration of the cellulose through the action of free alkali in the soap. This change in the chemical nature of the cellulose, possibly to cellulose hydrates, hydrocellulose and oxy-celluloses, etc., may cause spottiness in cake soap and a good deal of other trouble.

Hydrogenation of Peanut Oil

Fatty acids from peanut oil are selectively hydrogenated under reduced pressure (20 mm.) at 180°

C. in alcohol-ether solution in the presence of Raney nickel. Under these conditions the iodine number of the fatty acids drops from 92 to 73 and seems to stop at this point with the formation chiefly of isooleic acid. At ordinary pressure partially hydrogenated fatty acids with an iodine number of 38, melting at 42.3° C., are obtained, with stearic acid predominating. It is therefore possible to harden peanut oil by partial hydrogenation and by directing the fixation of hydrogen in such a way as to form isooleic acid.

In a second series of experiments the fatty acids were separated via their methyl esters and determined. It was found that the linoleic acid disappears first and that the formation of the isooleic acid is slow at the beginning of the hydrogenation. With the oleic acid in its nascent state, the hydrogen is added preferably at the 12-13 double bond, which is the farthest away from the carboxyl group, while the isooleic acid is formed either by isomerization of oleic acid into elaidic acid or more probably by selective fixation of hydrogen to the two isomers of linoleic acid with the double bond at 12-13 or 11-12 carbon linkages. The selectivity does not show up in the hydrogenation at ordinary pressure, but appears when reduced pressure is used which explains the stopping of hydrogenation at an iodine number of 80, indicating that one isomer of linoleic acid can be hydrogenated without touching the other. This would support the existence of an *alpha*- and *beta*-isomer as already indicated by Bedford. Rene Escourrou. *Bull. soc. chim.* (5) **6**, 360-7 (1939); through *Chem. Abs.*

Blemishes in Soaps

An analysis of spots and stains appearing on finished soaps revealed that they were insoluble soaps of calcium, iron, copper, lead and zinc. The metals came from waters used in the manufacture of soap. J. Grosser. *Ceskoslov. Mydlar Vonavkar* **16**, 118-20; through *Chem. Abs.*

Sulfonation Products

Capillary-active sulfonation products of neutral fats, fatty acids, resins and naphthenic acids are prepared by treating mixtures of these with 60-150 per cent of chlorosulfonic acid in the presence of 15-60 per cent of anhydrides or chlorides of aliphatic or aromatic carboxylic acids. Thus, castor oil is mixed with acetic anhydride and treated with chlorosulfonic acid to give a wetting agent. Oranienburger Chemische Fabrik A.G. German Patent No. 666,828.

Castor Oil Analysis

Castor oil is used so much for sulfonation and similar purposes that it becomes important to have an exact analysis of its fatty acid content. Equations were developed using the values obtained experimentally for the iodine number, thiocyanate number and acetyl number, and by use of these equations the fatty acid composition was calculated. The composition of a mixture of natural castor-oil fatty acids was found to be:

	Per Cent
Oleic acid	7.4
Linoleic acid	3.1
Ricinoleic acid	87.0
Dihydroxy stearic acid	0.6
Saturated Acids	2.4

These results were confirmed by another method. H. P. Kaufmann and H. Bornhardt. *Fette und Seifen* **46**, 444-6 (1939).

Waxes from Fatty Acids

Materials similar to wax or petroleum jelly are produced by heating the distillation residues of fatty acids in the presence of catalysts which favor the splitting off of carbon dioxide, and then reducing the resulting products with hydrogen. *Chem. Trade J. & Chem. Engineer* **105**, 140 (1939).

Fish Oil Processing

Fish oils containing free fatty acids and stearic acid compounds are treated with an aqueous solution of potassium permanganate to free the oil of these objectionable components. A hydrosilicate of magnesium may also be used. Wm. Hassard. Canadian Patent No. 384,364.

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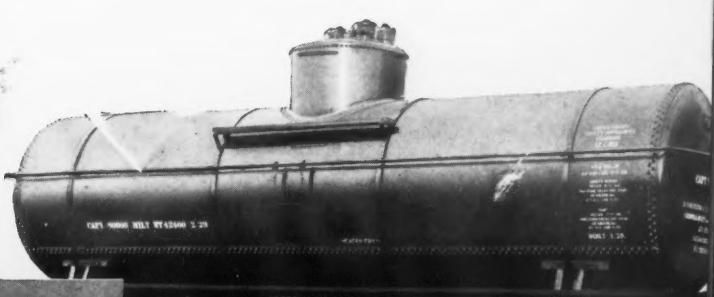
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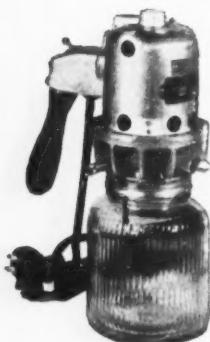
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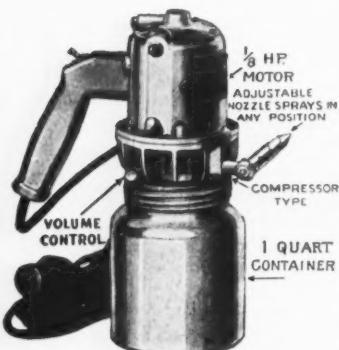
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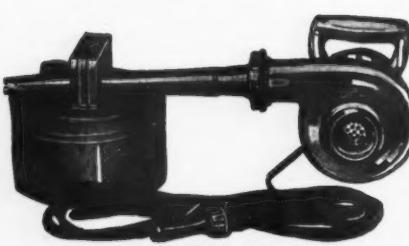
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MODEL 6A. A powerful blower type sprayer for covering large areas rapidly. Recommended for mill spraying and applying moth-proofing solutions on overstuffed furniture and carpets. $\frac{1}{3}$ H.P. Ball Bearing GE Motor. One gallon metal container.

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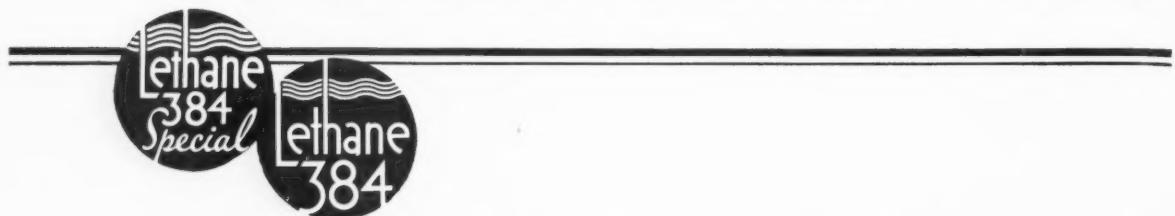
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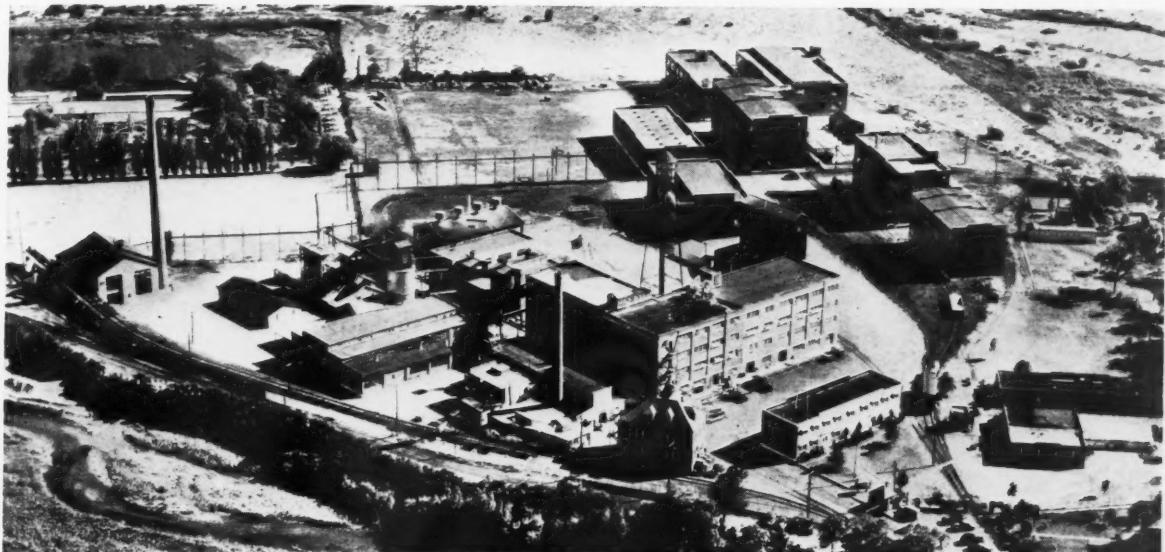
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KOPPERS CHEMICALS AND SOLVENTS
(Including High Flash) . . . Toluol (Industrial and Nitration) . . . Xylool (10° and Industrial) . . . Solvent Naphtha . . .
99% . . . Meta Para Cresol . . . Cresyllic Acid (Disinfectant) . . . Cresol (U. S. P., Resin and Plasticizer Grades)
99% . . . pale, high-boiling . . . Naphthalene . . . Shingle Stain Oil . . . Refined Tars . . . Tar Acid Oils . . . Pitch
Coke . . . Industrial Coal Tar Pitchers . . . Flotation Oils . . . Creosote

OTHER KOPPERS PRODUCTS
Tanks and Tank Work . . . Benzol Recovery Plants . . . Naphthalene Removal Apparatus . . . Sulfur Recovery Apparatus . . .
Apparatus . . . By-Product Gas Plants . . . By-Product Recovery Apparatus . . . Phenol Removal
Coal Tar Roofing Materials . . . Waterproofing Materials . . . Tarmac Road Tar Materials . . .
Bituminous Base Paints . . . Coal . . . Coke . . . Damp-proofing Materials . . . Fast's Self-aligning Couplings . . . Fire Hydrants . . .
Piston Rings . . . Gas, Air and Water Valves . . . Pressure-treated Lumber . . .

PRODUCTS OF THE WHITE TAR COMPANY OF NEW JERSEY, INC., a Koppers Subsidiary

REFINED NAPHTHALENE—Crushed, Crystals, Powder, Lump, Chips, Flakes. For use in manufacture of deodorizing blocks, moth preventives and other insecticides. Also Naphthalene in Balls, Blocks, Tablets + **COAL TAR DISINFECTANTS**—Co-efficients 2 to 20 plus, F. D. A. Method + **CRESOL AND CRESYLIC DISINFECTANTS** + **PINE OIL DISINFECTANTS** + **PINE OIL DEODORANTS** + **CRYSTAL AND BLOCK DEODORANTS** + **LIQUID INSECTICIDES** + **DEODORIZING BLOCKS**—Pressed Naphthalene or Paradi-chlorobenzene. Various sizes and shapes. Perfumed and plain. Bulk industrial packages, retail packages. Write to Kearny, N. J.

Speaking of ANNIVERSARIES—

DO YOU REMEMBER?

When the fly swatter was the best bet . . .

When sprays were made with straight kerosene with
maybe a little carbolic acid thrown in . . .

When boric acid was a swell roach powder . . .

When Pyrethrum was called Persian Flowers and
seemed to have possibilities . . .

That was 25 years ago the year the National Association
of Insecticide and Disinfectant Manufacturers was organized.

1939—Prentiss Clarified Pyrethrum No. 20

1914—The Fly Swatter

25 YEARS OF PROGRESS

R. J. PRENTISS & CO., Inc.

New York

Chicago

Cube

Derris

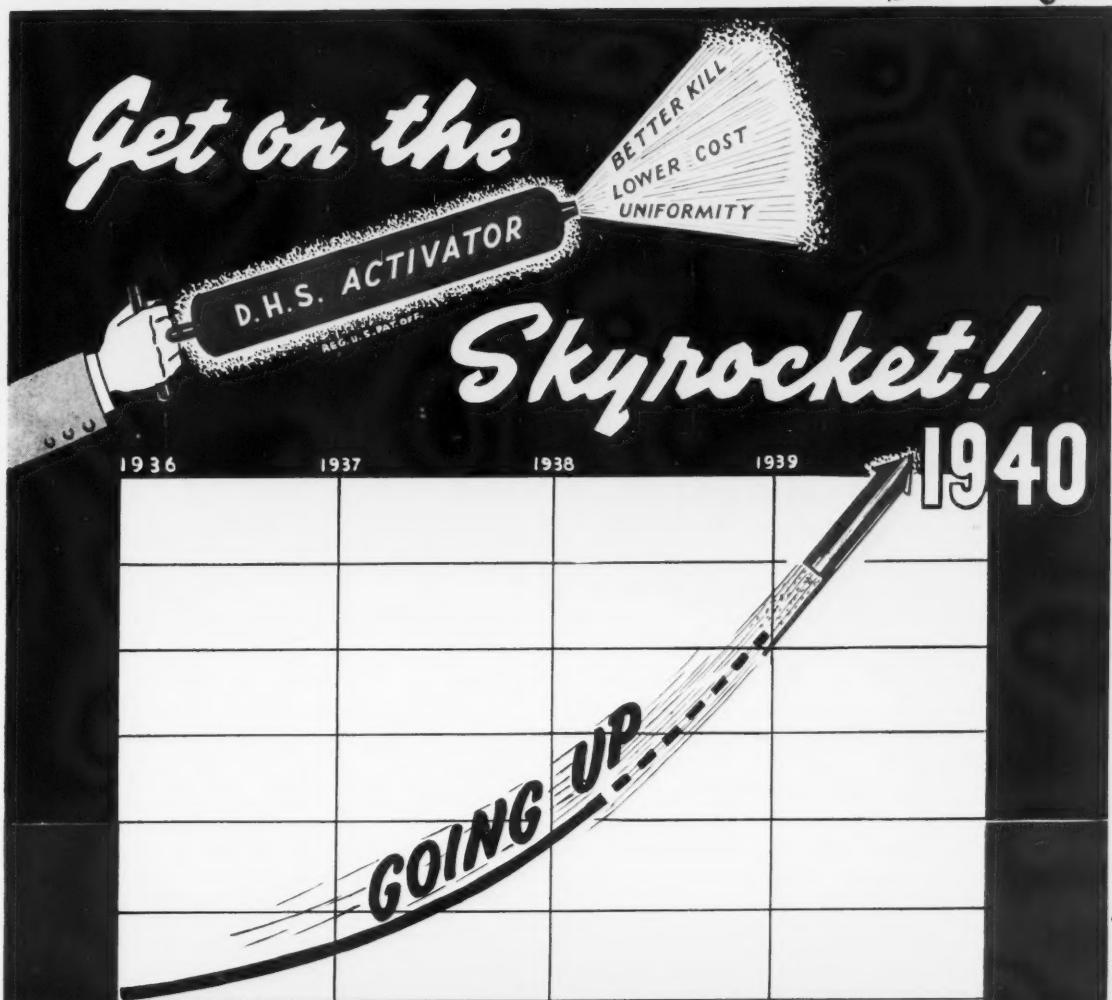
Pyrethrum

December, 1939

Say you saw it in SOAP!

For crawling insects, too

Understand D.H.S.
is backed by
Scientific Test
made at
University of De
Let's send
the booklet
that proves
it!



THERE'S TIME
GET IT IN
OUR 19
LINE

Hercules say
you add 5%
to O.T.I. (B.C.)
you get
class A spray

This sales curve means a lot to us—but more to you. It shows that D. H. S. Activator is accepted by the industry as a means of improving the efficiency and lowering the cost of pyrethrum fly sprays.

Study the results of scientific tests made at the University of Delaware and be convinced. Just ask for Bulletin No. 217, "Terpene Ethers in Pyrethrum and Rotenone Fly Sprays."

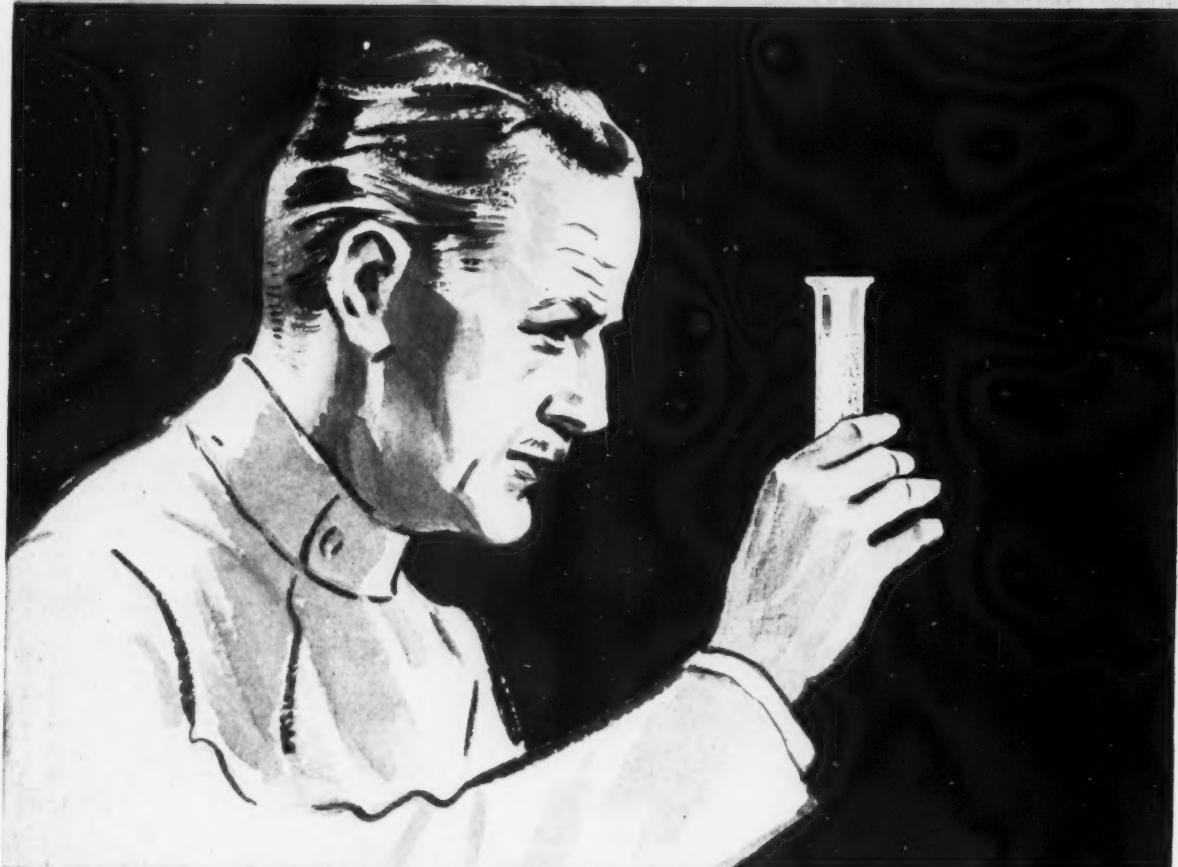
Tell the
laboratory
to try the
for our
1940 spray

MERCER'S NAVAL STORES

BRANCH OFFICES: CHICAGO • NEW YORK • ST. LOUIS • SALT LAKE CITY • SAN FRANCISCO

Pyrethrum @ \$1.00 a gal.
5% 20:1 extract = 35¢
+ 5% D.H.S. = 25.1¢ $\frac{35.0}{25.1}$ $\frac{25.1}{9.9}$ ¢ saving in toxic
int. cost $\frac{35.0}{9.9}$ $\frac{35.0}{9.9}$ ¢ saving!

HAVE YOU TRIED **PARAPONT.** PARA-DICHLOROBENZENE?



• If purity is a requisite for the para-dichlorobenzene you use, you will like "Parapont." It is white, free-flowing and lustrous. Six granulations are available; each is consistently uniform.

Whether you require single drums or carloads, keep "Parapont" in

mind, for Du Pont maintains an adequate supply—and you may obtain "Parapont" on short notice.

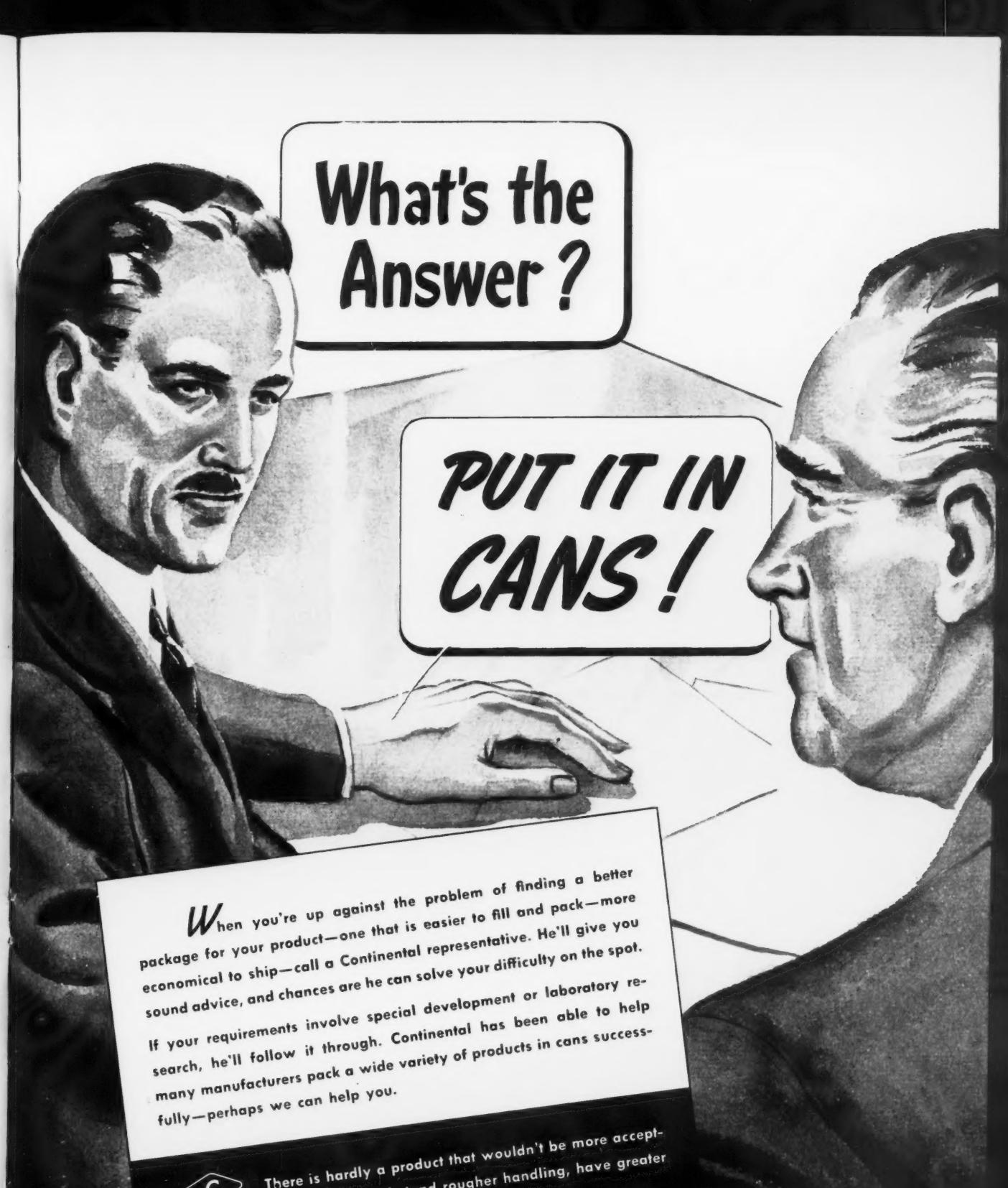
Products made from "Parapont" are quality products. That's why manufacturers always "come back for more."

May we furnish samples?

*TRADE MARK



E. I. DU PONT DE NEMOURS & CO., INC., ORGANIC CHEMICALS DEPT., WILMINGTON, DELAWARE



What's the Answer?

PUT IT IN CANS!

When you're up against the problem of finding a better package for your product—one that is easier to fill and pack—more economical to ship—call a Continental representative. He'll give you sound advice, and chances are he can solve your difficulty on the spot. If your requirements involve special development or laboratory research, he'll follow it through. Continental has been able to help many manufacturers pack a wide variety of products in cans successfully—perhaps we can help you.

C There is hardly a product that wouldn't be more acceptable packaged in a can. It will stand rougher handling, have greater shelf appeal, and assure more convenient usage.

A Continental representative will be glad to help you solve your problem anytime.

CONTINENTAL CAN COMPANY

NEW YORK · CHICAGO · SAN FRANCISCO · MONTREAL · TORONTO · HAVANA

NEW INSECTICIDE CONCENTRATE KILLS MORE Costs Less

U.S.I. "DEREX" BRINGS LOWEST COST PER UNIT OF "KILL POWER"

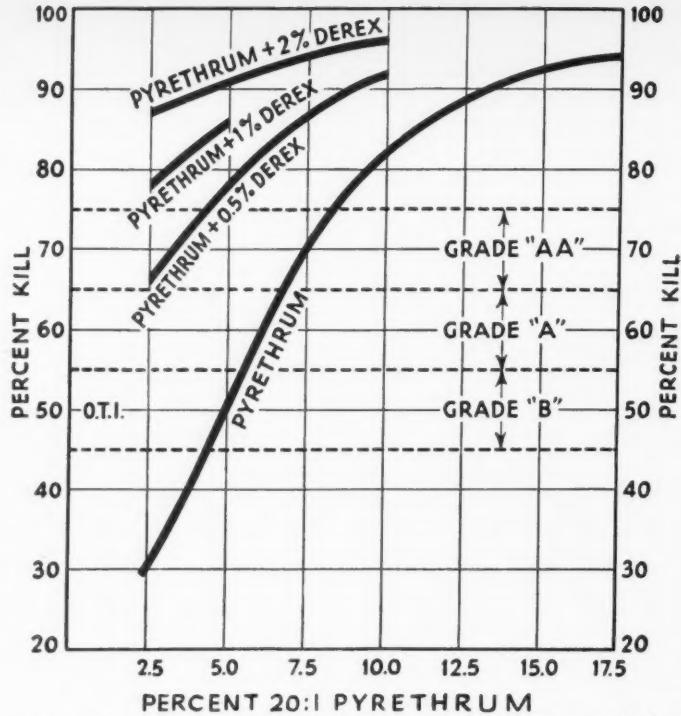
Your liquid spray can have "AA" rating at far lower cost than previously possible by the incorporation of DEREX, a newly developed U.S.I. concentrate.

DEREX gives you a STANDARDIZED and UNIFORM source of derris extractives without expensive testing.

DEREX is a solution in alpha, alpha-dimethyl-alpha'-carbobutoxydihydro-gamma-pyrone, of derris extractives, with or without rotenone. The solvent does far more than act as a dissolving medium—it actually adds to the insecticidal strength of the derris extractives.

In addition to increased "kill power," you may save up to 50% in the cost of active ingredients. Moreover, the solvent component of DEREX is a repellent many times more potent than other materials now available. Consider what such outstanding advantages will mean to you for 1940 sales and profits.

Write today for further information and sam-



Killing power of Pyrethrum-DEREX Mixtures as determined by the Peet-Grady Method

ples on this remarkable concentrate—that kills more and costs less.

U.S.I. INDUSTRIAL CHEMICALS, INC.
60 EAST 42nd STREET, NEW YORK, N. Y.

U.S.I. A Subsidiary of U.S. Industrial Alcohol Co. Branches in All Principal Cities

SPECIFY DEREX

FOR YOUR 1940 INSECTICIDE FORMULAS

SCENTED FOR SALES

No longer can odor be incidental in fly sprays, insecticides and deodorants. It must be scientifically developed to customer's processes and at the same time express the individuality of the product itself. Selection of the right odors—the odors that will give the best results—is a service in which Givaudan has special knowledge and experience. We have not only pioneered steadily in this field but are now better equipped than ever with special facilities for giving you exact assistance in the development of entirely new odors that will meet the individual requirements of your products.



GIVAUDAN
DELAWANNA, INC.

54 FAIRFAX AVENUE, NEW YORK, N. Y.

Che

"SEND US A GALLON"

policy *

is still your best assurance of proper, scientifically balanced insecticide perfuming.

With a sample of your unperfumed insecticide to work with we can prescribe a perfume whose volatility is matched with that of the base. Thus you are assured of complete odor coverage when you need it and complete dissipation of perfume when the base odor is gone.



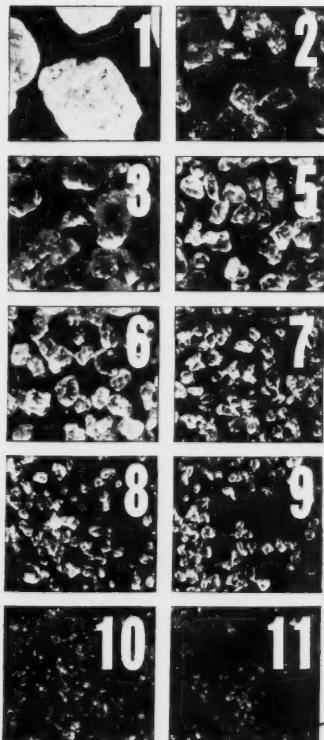
Send us a gallon of your unperfumed insecticide and we will submit perfume samples already incorporated in your product

VAN AMERINGEN-HAEBLER, INC.
315 FOURTH AVE., NEW YORK CITY

Ring in the New Year



with PARA-DICHLOROBENZENE THAT SUITS YOUR 1940 NEEDS!



YOU CHECK THE GRADE
... WE'LL DO THE REST

We will send you a sample of the grade you check off . . . send you complete information on Solvay Para-dichlorobenzene . . . or if you are uncertain of your requirements, our technical staff is ready to help you select the most efficient grades for your particular purposes. Make use of Solvay service!

Fill in the coupon now!

1940 will be a big para-dichlorobenzene year! So streamline your products by using Solvay Para-dichlorobenzene. Watch it streamline your sales!

When you use Solvay Para-dichlorobenzene, you have 10 important advantages in para-dichlorobenzene—**SOLVAY'S 10 GRADE SIZES!**

In these ten sizes you have the full range of sizes from which to choose the one or two sizes best suited to your own specific requirements . . . and they are *stock sizes—not special orders!*

ONE MORE ADVANTAGE is the clearness of Solvay Para-dichlorobenzene crystals.

AND STILL ANOTHER BIG ADVANTAGE IS SOLVAY SERVICE . . . with a long standing reputation for promptness and efficiency. Get started early this year! Place your orders now. **BUY SOLVAY PARA-DICHLOROBENZENE!**

SOLVAY SALES CORPORATION

*Allies and Chemical Products Manufactured by
The Solvay Process Company*

40 RECTOR STREET NEW YORK, N. Y.
BRANCH SALES OFFICES:
Boston Charlotte Chicago Cincinnati Cleveland
Detroit Indianapolis New Orleans New York
Philadelphia Pittsburgh St. Louis Syracuse

SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
PARA-DICHLOROBENZENE

1 2 3 5 6 7 8 9 10 11

Solvay Sales Corporation, 40 Rector Street, New York, N. Y.

Gentlemen: Please send me a sample of the grade of Solvay Para-dichlorobenzene I have checked off, along with complete information.

Name _____

Company _____

Address _____

City _____ State _____ AJ-12



Aromatics

FOR FLY SPRAYS, INSECTICIDES AND HOUSEHOLD SPECIALTIES

May now be obtained from

John Powell & Company, Inc.
114 East 32nd Street
New York City

THROUGH their experience with fly sprays, insecticides and household specialties, John Powell & Co., Inc., are in an excellent position in this field to furnish technical advice on the use of Du Pont Aromatics. These are specially designed to meet the rigid requirements of the products in which they are to be used. For complete information write John Powell & Co., Inc.

See the John Powell & Co., Inc., advertisement that follows.



E. I. DU PONT DE NEMOURS & CO. (Inc.), FINE CHEMICALS DIV., WILMINGTON, DEL.

Greetings!

ON THE occasion of the twenty-fifth anniversary of the founding of the National Association of Insecticide & Disinfectant Manufacturers, I desire to extend greetings to our membership, and to the industry at large, and to express the hope that the accomplishments of the next twenty-five years will be as fruitful as those of the past.

It is also my sincere hope that not many years hence will see every reputable manufacturer of insecticides, disinfectants, and allied sanitary products in the country active in the affairs of our Association.

J. L. BRENN
President.



National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street

New York

OFFICERS

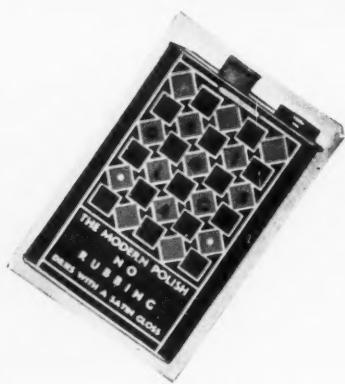
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MANUFACTURER *exclusively for the JOBBER*

WRITE FOR
CATALOGUE AND JOBBERS'
PRICE LIST



For
Quality Plus
—Consult Us



WE
SPECIALIZE
IN PRIVATE
BRAND PACKING
FOR THE JOBBER

LET US QUOTE
ON YOUR
REQUIREMENTS



UNCLE SAM CHEMICAL CO., INC.

329 East 29th Street

Established 1915

New York, N. Y.



"FUMERAL" Instant Diffuser

Pat. Sept., 1934 — Aug., 1938

Inexpensive — Efficient — Economical

A MODERN SANITATION SYSTEM

DIRECTLY CONNECTED TO FACTORY STEAM OR AIR LINE.
STEAM OR AIR PRESSURES FROM 30 UP TO 200 LBS. MAY BE SAFELY USED.

STATIONARY MODEL A

2, 3, or 4 Nozzles



For dairies, cheese factories, and ice cream plants, we recommend the Model A of one-quart capacity. Install one unit for every 10,000 to 12,000 cubic feet of space, two for 25,000 cubic feet, and so on. Lists at \$7.50.



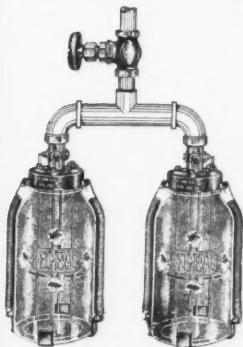
STATIONARY MODEL B

2, 3 or 4 Nozzles

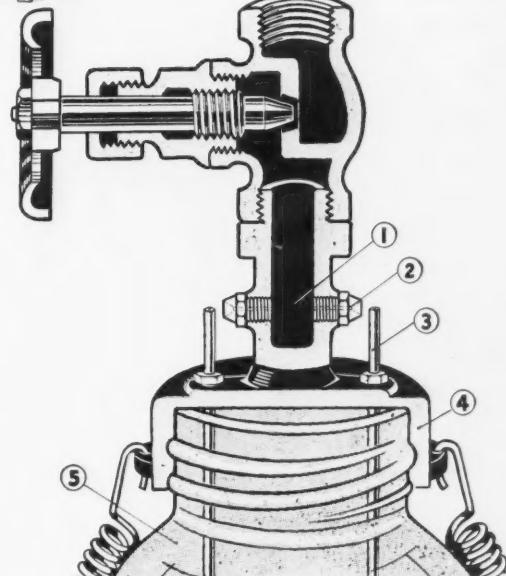
For larger space fumigation such as in flour mills, bottling plants, packing plants, breweries, etc., we recommend the Model B, of half-gallon capacity. Install one unit for every 25,000 cubic feet, two for 50,000 cubic feet, and so on. Lists at \$8.50.

STATIONARY MODEL TWIN B

2, 4, or 6 Nozzles

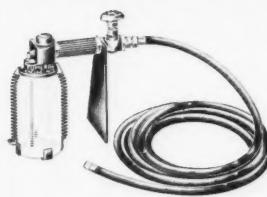


For permanent vault installations and such places which require large quantities of liquids to be diffused in a comparatively small space, we recommend the Model Twin B of one-gallon capacity. The pressure control valve may be located outside of the vault. Lists at \$17.00.



- (1) Pressure chamber. LIQUIDS ARE NOT PRE-HEATED. Overheating affects killing strength of pyrethrum.
- (2) The special Fumeral pressure release vents account for the remarkable low cost of operation.
- (3) Removable liquid tubes. Easy to clean. Simple to adjust or replace. No soldered joints. Nothing to go wrong.
- (4) Fumeral body is made of solid bronze. It is threaded to screw the container in place. Easy and safe to fill.
- (5) No pressure or vacuum is applied to the Fumeral container. LIQUID IS VISIBLE AT ALL TIMES. DIRTY LIQUIDS CONTAMINATE FOOD, LEAVE A DEPOSIT, AND OFTEN BECOME POISONOUS.
- (6) Pressures from 30 to 200 lbs. may be applied without adjustment. No pressure regulators required.

PORTABLE FUMERAL DIFFUSER



The portable Fumeral Model 7 of half-gallon capacity is extensively used in addition to the stationary models for local treatment of machinery, mill leggins, closets, etc.; also for treating grain, carloadings, greenhouses, etc. For use in schools, theatres, laundries, barracks, moving vans, railroad freight, passenger and dining cars, airplanes, on merchant and passenger ships. Lists at \$12.50 not including the hose. —Write for Details.

Prices are quoted f.o.b. Racine, Wis. Subject to change without notice.
Sold by leading jobbers and distributors.

FUMERAL COMPANY

We do not manufacture or sell insecticides.

RACINE, WIS.

Larger Quarters for Buckingham Wax

NO-RUBBING LIQUID WAX
PREPARED LIQUID WAX
(Polishing type)
PREPARED PASTE WAX
POWDERED DANCE WAX
WHITE EMULSION FURNITURE POLISH
FLOOR CLEANER AND BLEACH
BOWLING ALLEY POLISH



Expansion is now a healthy sign. It is the proof of a growing list of distributors. Satisfied buyers are repeating, month after month, for a successful line of wax products.

Buckingham Wax now occupies the block square, three-story building at Van Dam Street and Borden Avenue in Long Island City, and the plant capacity has been materially increased.

A quality line of waxes and specialty products are offered in bulk or private label packages.

Write today for detailed information and samples.

BUCKINGHAM WAX CORP.

VAN DAM STREET AND BORDEN AVE.

LONG ISLAND CITY, N. Y. STILWELL 4-5570 and 5585

Garnet Largest Manufacturers of Sanitary Appliances Since 1899

The New Improved

STANDARD DRIP MACHINE

One quart capacity

Cadmium Plated—Nickel Plated—Oxidized—White Enamel
Chrome Finish at slight additional cost

Choice of Glass Inside Container with Valve
or Metal Inside Container with wick Jacket.

Heavy Metal Casing and Bottom. Three rows of Perforation. Beaded.
Neat Design. Slot back or leg fasteners.

UNIVERSAL No. 8 Liquid Soap Dispenser

12-oz. Capacity
Spring Valve

Chrome Plated
Replaceable Bulb

The finest low priced Liquid Soap Dispenser
on the market. Neat Design. Smooth acting.
Made for steady and hard usage. Reinforced
one piece metal bracket.

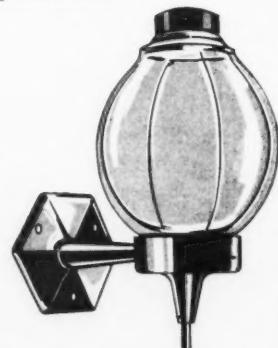
*Send for Illustrated Circular and Price
List. Dept. K.*

Metal Appliance Division

GARNET CHEMICAL CORPORATION
911-925 N. Lumber St. and L.V.R.R.

Allentown

Pennsylvania



FAY ELECTRIC FLOOR MACHINES

*Increase YOUR PROFITS...
BECOME A FAY Dealer!*

There are Fay Electric Floor Machines in every state of the Union. Public schools, office buildings, hospitals, and even private homes are all prospects.

There is a Fay Floor Machine for every type of job . . . scrubbing, polishing, waxing, light sanding, and steel wooling. Increase your earnings by adding these fast-selling profit-makers to your present line.

Every street in your own city has a dozen locations where a Fay Electric Floor Machine would do a better job and could be sold if the proper type of Fay Floor Machine were demonstrated.

Write TODAY for complete details. No obligation.



The FAY Company

130 Madison Ave.
New York, N. Y.

**CRESOL...CRESYLIC ACID...CRESOL U.S.P.
TAR ACID OILS...XYLENOL
NAPHTHALENE**

*and other COAL TAR PRODUCTS
FOR THE SOAP and DISINFECTANT
INDUSTRY*

15 PLANTS TO SERVE YOU

4 DECADES OF SERVICE



REILLY TAR & CHEMICAL CORPORATION

Executive Offices: Merchants Bank Building, Indianapolis, Indiana
2513 SO. DAMEN AVENUE, CHICAGO, ILLINOIS 500 FIFTH AVENUE, NEW YORK, N. Y. ST. LOUIS PARK, MINNEAPOLIS, MINN.



Faster Kill!

Mr. Insecticide Manufacturer:

The success of your insecticide business depends upon the EFFECTIVENESS of your product. If it doesn't do its work to the satisfaction of your customers—you lose their business.

Your customers want these three features in the insecticides they buy:

1. Always odorless
2. 100% volatile
3. Quick kill

When you use genuine Penn-Drake INSECTI-SOL as the base for your preparation, you are able to give your customers what they want.

Furthermore, Insecti-Sol is PRICED RIGHT. It costs no more than ordinary solvent, yet protects your reputation with your customers. So don't risk a loss of customers by using an inferior solvent. It may be deadly to your business. Send today for complete information on this pure Penn-Drake product.

PENNSYLVANIA REFINING CO.

General Offices: BUTLER, PA.

REFINERIES AT
Titusville, Pa. and
Karns City, Pa.

WAREHOUSE STOCKS
MAINTAINED IN:
New York, Chicago,
Detroit, Los Angeles,
St. Louis, Atlanta,
Boston, Scranton
and Cleveland



PENN-DRAKE PRODUCTS

U. S. P. White Oils and
Technical Oils...Petro-
latums...INSECTI-SOL
...Waxes...Naphthas
...Rubber Solvents
Motor oils and greases
...High flash lubri-
cants...Industrial lub-
ricants and greases

FEDERAL

LES-SLIP SELF POLISHING WAX FINISH

*An Ideal Beautifying
and Protective Coating
for Wood and Linoleum
Floors*

AT VERY LOW COST—



**BRILLIANT—CLEAR—WASHABLE
ECONOMICAL**

Made to Meet Keenest Competition

In order to make it possible for you to meet keen competition for a quality product at a low price, our laboratories have perfected Les-Slip—a self-polishing wax that compares most favorably when tested against much higher priced products.

We suggest that you make your own tests. Compare it in actual use—observe its fine lustre—its heavy coating—its durability—its washing resistance and last but not least, its lack of slip. Send for a testing sample now.

Send for Literature

FEDERAL VARNISH CO.

FLOOR FINISH DIVISION

DEPT. 130 331-337 S. PEORIA ST.

CHICAGO

Householders who want their homes  clean as a whistle  and fresh as a daisy  are quickly learning to use insecticides  with an odorless base.

That is why Atlantic Ultrasene  is proving so profitable  to many insecticide manufacturers. Free sample  is yours for the asking . . .

THIS SIDE OF CARD IS FOR ANSWERS
The Atlantic Refining Co.,
Technical Sales Division
260 S. Broad St.
Philadelphia, Pa.

ATLANTIC ULTRASENE
A BETTER BASE FOR BETTER INSECTICIDES

Does your product really
POUR—
or are your resales
DRIBBLING AWAY?



In a recent survey conducted by "Sales Management," housewives clearly indicated that they want spouts on their containers. But they insist on spouts that pour without spilling or dribbling . . . the kind that gives them perfect control of the pouring when they use the contents of a can.

That's what they get when BARROLL POURING SPOUTS are used on cans. There's no splashing or spilling on the clothes or floor, because these pouring spouts enable the housewife to pour the contents of can just where she wants it . . . in exactly the quantity she needs.

The sanitary feature of these spouts is another advantage that pleases the housewife. The screw cap tightly seals the container when not in use.



Millions of cans equipped with BARROLL POURING NOZZLES are sold every year and are building good-will and increased sales for the progressive manufacturers that use them on their containers.

Your can manufacturer can supply your cans with these efficient nozzles. Specify them on your next order and capitalize on the popularity of BARROLL POURING NOZZLES. Samples and full particulars on request.

BARROLL POURING NOZZLES
for cans

HENRY BARROLL & CO., Inc.

• Sole Patentees and Manufacturers

• 270 Broadway, New York



"Mamma, it's wonderful—just what I wanted!"

You'll say the same thing when you try

NIAGARA PARA

You'll be pleased, too, with the quality of Niagara Caustic Potash, Niagara Caustic Soda and Niagara Carbonate of Potash.



ROTENONE

GIVES

THE ADDED KILL

TO

FLY SPRAYS
CATTLE SPRAYS
PLANT SPRAYS

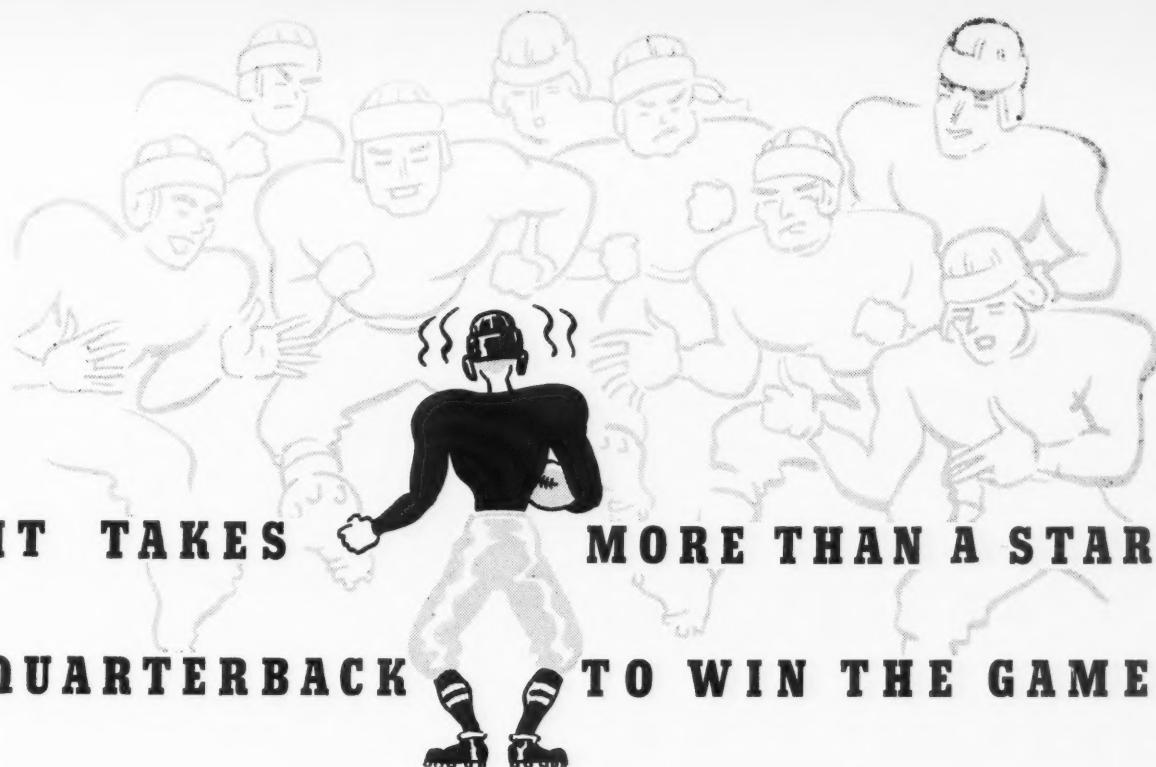
You Can Rely on Our
Rotenone
Derris Resins

and

Extracts In Solvents to
Suit Your Needs

DERRIS, INC.

79 WALL ST.
NEW YORK



**IT TAKES MORE THAN A STAR
QUARTERBACK TO WIN THE GAME**

No matter how spectacular a star quarterback's performance, he can't crash through alone. It takes teamwork to make touchdowns!

Scoring in the floor wax field is much like playing winning football. Non-slipperiness, for example, may put on a good show in a demonstration . . . but it proves only a flash-in-the-pan if it isn't teamed up with durability, appearance, waterproofness, etc.

In Candy's Bright Beauty, no single feature is expected to carry sales alone. Durability is recognized as important, but it is never emphasized to the exclusion of safety in walking. Nor is lustre sacrificed to gain a finish as water-resistant as rubber or as non-skid as sandpaper.

Conditioned for *all-around* performance, Candy's Bright Beauty rivals in appearance those waxes that play the grandstand with gloss or lustre. Rea-

sonably water-resistant, it will not milk in wet weather . . . withstands damp mopping. Bright Beauty is not excessively slippery, creates no difficulty in walking. (To be actually *non-skid* a wax would have to be so soft and sticky it would be impractical for use as a floor finish.)

Add to this ease of spreading . . . freedom from streaks . . . quick drying . . . perfect emulsion (cannot solidify, separate or settle) . . . light color . . . pleasing odor . . . and you've got an unbeatable "eleven" for opening up the defense lines. A combination that's bound to give your competitors the "run around"!

For every time your men can put "Bright Beauty" on a prospect's floor

. . . alongside a wax that has already proven "eminently satisfactory" . . . you've practically got an order. This may sound like a pretty broad statement, but we'll gladly demonstrate it to your satisfaction any time you give us an opportunity.

SOLD THROUGH DISTRIBUTORS ONLY

Bright Beauty is sold through distributors *only** . . . never direct to the consuming trade. It is our unalterable policy never to compete with our jobbers. Packed in attractive containers under your own label. Competitively priced to allow your usual markup. Write for FREE experimental sample . . . try Bright Beauty under your own most rigid tests!

*Except for experimental accounts in Chicago, essential to research.

Al Candy, Jr.

CANDY & CO., INC. WAX SPECIALISTS FOR OVER 40 YEARS 2515 W. 35TH ST., CHICAGO

Manufacturers of Prepared Paste Wax, Spirit Liquid Prepared Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners, Rug Shampoo

One of the real joys of yuletide is the opportunity to put aside the routine and customs of everyday business and in real sincerity offer season's greetings to all our friends.



Baird & McGuire, Inc.



Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

HOW different is the objective of the National Association of Insecticide and Disinfectant Manufacturers today from that of twenty-five years ago when the organization was founded. As the Association celebrates its silver anniversary in Washington, old-timers will recall how it was established primarily to "protect" manufacturers against the invasion of their "sacred private rights" by government officials undertaking to enforce the Insecticide Act of 1910. That those "rights" in the old days might have included all sorts of adulteration, and label claims limited only by the extent of one's imagination, was a minor detail. Bluntly, the Association was formed to buck the government in its enforcement of the then new law,—and to fight through the courts to the last ditch if necessary.

But, how times have changed. And how the attitude of manufacturers has changed down through the years as they have found themselves on the losing end of the fight. Today, much of the old bitterness is gone. The strict enforcement of the law,—although even now it is held to be a bit arbitrary at times,—is taken for granted. A spirit of cooperation in ironing out disagreements has replaced the almost constant feud of former years. And the Association has undoubtedly been a prime mover in fostering these better relations between government officials and manufacturers. It has worked unremittingly to improve the ethical level of its industry, and its success has been gratifying. Here's hoping the work of the next twenty-five years will be equally effective.

THE Dennis Patent covering the use of cube as an insecticide material has in fact been declared invalid through the refusal of the U. S. Supreme Court to review the decision of the lower courts. Up-held in the district court, the Dennis Patent decision was then reversed by the Circuit Court of Appeals, thus placing cube and timbo in the same category as other rotenone bearing roots free to be used as insecticides by any who may care to use them.



POISONS are most effective in a war on kitchen insects, says a newspaper report, giving as its authority for this statement the U. S. Department of Agriculture,—division not mentioned. The report then goes on to give directions for home manufacture of various arsenical and tartar emetic syrups, ostensibly to be made on the kitchen stove. Now, poisons may be very fine for effective extermination of ants. We have no quarrel with that point. What we object to is the recommendation for home manufacture, mixing, cooking and handling of poisons in the kitchen where food is prepared. From a government department which leans over backwards in other ways in protecting the public health against dangerous and deleterious materials, these recommendations are just not good sense. The home is no place for the manipulation of deadly poisons under any conditions for any purpose.

Insecticide-Disinfectant Meeting in Washington

CELEBRATING its silver anniversary, the National Association of Insecticide and Disinfectant Manufacturers is holding its twenty-fifth annual meeting at the Mayflower Hotel in Washington, D. C. on December 4 and 5. Advance figures indicate that something over 250 representatives of member manufacturers and guests, including many leading government officials, are attending the sessions. The meeting will extend for two days and close with the election of officers, and the annual informal beefsteak dinner on Tuesday evening, December 5. Technical and commercial subjects are included among the papers listed on the program.

The principal speakers at the opening session of the convention were J. L. Brenn of the Huntington Laboratories, Inc., Huntington, Ind., president of the Association, and Fred A. Hoyt of the Frederick Disinfecting Co., Atlanta, Ga. In his annual address published elsewhere in this issue in full, Mr. Brenn predicted a continuation of the expansion of the insecticide, disinfectant and sanitary products industries in years to come equal to that over the past twenty-five years during which the industry grew from very small beginnings. His chief recommendations for the future included continued improvement in quality and steady reduction in prices, a continuation and expansion of research, and a program of cooperative publicity. Mr. Hoyt, a charter member of the Association and a past president, reviewed the interesting history of the organization since its founding in 1914 to "protect" manufacturers against the enforcement of the Insecticide Act of 1910.

At the opening session of the convention, other speakers included Melvin Fuld of Fuld Brothers, Baltimore, on "Water Emulsion Floor Waxes," and Dr. Werner R. Husen of the Commerce Petroleum Co., Chicago, on "The Effects of Insecticide Bases on the Staining of Wall Papers by Insect Sprays."

LATER sessions of the meeting will hear an address on "Fire Hazards in Disinfectants and Insecticides" by A. F. Matson of the Underwriters' Laboratories, Chicago. A general discussion of the inclusion of disinfectants made from petroleum cresylic acids in the official specified products will be preceded by addresses by M. L. Griffin of the Shell Development Co., San Francisco, on "Manufacture and Properties of Cresylic Acids from Petroleum,"—Dr. E. G. Klarmann of Lehn & Fink, Inc., Bloomfield, N. J., on "Alkyl-Phenolic Disinfectants from Petroleum Sources and the Commercial Standards." At the same session, F. W. Reynolds of the Division of Trade Standards of the U. S. Department of Commerce will speak on "Procedure in Effecting Changes in Commercial Standards." The matter of officially revising the specification for cresylic disinfectant to include petroleum cresylics as raw materials will be voted on by following the discussion at the meeting.

On Tuesday morning, Dec. 5, the oft-discussed subject of "moribund kill" will come up for discussion in the form of four short reports by leading technical authorities. The subject and a report from the Insecticide Scientific Committee will be presented by Dr. Alfred Weed of John

Powell & Co., New York, chairman of the committee under the title, "Shall Moribund Flies be Counted as Dead in the Peet-Grady Test?" He will be followed by Dr. H. G. Whitmire, of the Whitmire Research Labs., St. Louis, L. D. Benedict of the Midway Chemical Co., Chicago, and Dr. W. A. Simanton of the Gulf Research & Development Co., Pittsburgh. Other speakers at the same session will include Dr. F. L. Campbell of Ohio State University on "A Study of Insecticide Sprayers," and H. C. Fuller, technical consultant for the Association at Washington, on "Preparation and Uses of an Allergy Reference Index." This index has been in course of preparation for the past year. C. L. Fardwell of McCormick & Co., Baltimore, will report on "Legislation in 1939-40."

"Official Methods for the Determination of Pyrethrins and Rotenone" by J. J. T. Graham of the Food & Drug Administration; "Pyrethrum Insect Sprays.—Prolonging their Toxicity" by Dr. R. B. Trusler of the Davies Young Soap Co., Dayton, O.; and a symposium on raw material markets featuring several leaders in the industry, will complete the program. Speakers in the latter symposium will include: L. W. Jones of McCormick Co., Harold Noble of S. B. Penick & Co., J. H. Carpenter of Koppers Co., J. H. Lawson of the Federal Varnish Co., S. W. Jacobs of the Niagara Alkali Co. and John B. Gordon of the Bureau of Raw Materials, Washington.

Heading the committee in charge of the meeting is W. J. Zick of Stanco, Inc., New York, with John Powell of John Powell & Co., New York, in charge of arrangements and finances and C. L. Weirich of the



C. B. Dodge Co., Westport, Conn. in charge of the program of speakers. Entertainment is in the hands of C. L. Lovell of the American Can Co., New York, assisted by John N. Curlett of McCormick & Co. and Melvin Fuld of Fuld Brothers.

The complete program follows:

PROGRAM

MONDAY, DECEMBER 4th

Morning Session

9:00 A.M. Registration
10:00 A.M. Meeting called to order
Announcements

"Looking Forward"—Address of President—J. L. Brenn, Huntington Laboratories, Inc.

"Looking Backward"—Fred A. Hoyt, Frederick Disinfectant Co., President N.A.I.D.M. 1925-27

Appointment of Committees

Report of Treasurer: John Powell, John Powell & Co.

Report of Secretary: Ira P. MacNair, MacNair-Dorland Co.

Report of Membership Committee: Henry A. Nelson, Chemical Supply Co.

Roll Call

Introduction of Guests

Selection of Nominating Committee

"The Effect of Insecticide Bases on the Staining of Wall Paper"—Dr. Werner R. Husen, Commerce Petroleum Co.

"Water Emulsion Floor Waxes"—Melvin Fuld, Fuld Bros.

12:30 P.M. Group Luncheon

MONDAY, DECEMBER 4th

Afternoon Session

2:00 P.M. Meeting called to order
Announcements

"Manufacture and Properties of Cresylic Acids from Petroleum"—by D. B. Luten, F. A. Bent and M. L. Griffin. Presented by M. L. Griffin, Shell Development Co.

Discussion: "Shall Petroleum Derived Phenolic Materials Be

Made Part of Coal Tar and Cresylic Disinfectants under Specifications U. S. Standards No. CS70-38 and CS71-38?"

"Alkyl-Phenolic Disinfectants from Petroleum Sources and the Commercial Standards"—Dr. E. G. Klarmann, Lehn & Fink Products Co.

"Procedure in Effecting Changes in Commercial Standards"—F. W. Reynolds, Division of Trade Standards, U. S. Department of Commerce.

(Discussion from the floor. Vote on this question to be polled by mail through the Association Office after this meeting)

"Fire Hazards in Disinfectants and Insecticides"—A. F. Matson, Underwriters' Laboratories Inc.

4:30 P.M. Adjournment

TUESDAY, DECEMBER 5th

Morning Session

10:00 A.M. Meeting called to order
Announcements

"Shall Moribund Flies Be Counted
(Turn to Page 129)



J. L. BRENN
Huntington Laboratories, Inc.
President

Officers and Governors of the



W. J. ZICK, 1st Vice-president
Stanco, Incorporated



JOHN CURLETT, 2nd Vice-president
McCormick & Co.



JOHN POWELL, Treasurer
John Powell & Co.

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1939

NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MFRS.

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Huntington Laboratories, Inc.

1st Vice-President

W. J. ZICK
Stanco, Inc.

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Davies-Young Soap Co.

National Assn. of Insecticide and Disinfectant Mfrs.



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Davies-Young Soap Co.



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DR. E. G. THOMSEN
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LOOKING FORWARD—

Address of the President of the National Association of Insecticide & Disinfectant Manufacturers before the 25th Annual Meeting at Washington, D. C.

J. L. Brenn

President N.A.I.D.M., 1938-39

WHEN an industry grows to the extent ours has grown during the past quarter century, it most certainly must be due to its inherent soundness, both economically and socially, as well as to the energy and ability of the men who operate its principal units. And so as we attempt a glimpse into the future, it seems to me that we can profitably look backwards occasionally even at the risk of some repetition, since sound business principles that have proven effective in the past, are bound to prove the same in the future.

That small group of men representing a comparatively small industry who met here twenty-five years ago to organize this Association, could hardly dream of the tremendously successful future that then lay in store for us, and I am afraid that we at this moment find it equally as impossible to picture what the next quarter-century has in store for us. So the best we can do is consider the fundamentals of our past successes and endeavor to make them our future guide-posts. And when we come to consider fundamentals we run the risk, in these days of intense pragmatism, of being called old fogies and of accusations of being behind the

times. But be that as it may, let us dwell upon the things we know have proven successful in the past, and in my humble opinion will be necessary for our successes in the future.

Industry can only profit most when it serves best. And by serving best we must first of all consider our consuming public. As long as we continue to make the kind of insecticides, disinfectants and other sanitary products which the public needs and wants to guard its health, increase its comfort and make life more pleasant, that long are we bound to have increasing consumption of our products. We must of course always remember that reasonable price to the consumer is of vital importance, and from these two points of view I am willing to stack the accomplishments of our industry against the record of any other American industry. We are proud of the constant improvement and increasing variety of our products and the continual lowering of selling prices. This same condition must continue to prevail in the future.

Secondly comes the welfare and happiness of our employees. I well remember the days of the N.R.A. when I was privileged to represent our industry in its dealings with the

government and how when we made an analysis of our hours of labor and minimum wage scales, we found that we had practically nothing to change in order to bring our labor standards up to a fair national average, as we were already well above this average. And since the enactment of the Labor Relations Act in more recent times, we have had practically no labor difficulties in any of our plants. Viewing the labor relations picture as a whole, I feel that we can be rightfully proud of our contribution as an industry to a sound national economy and, of course, our future successes must of necessity be built on this same policy.

Thirdly, I would place the highly developed program of research which pervades our entire industry. We can rightfully boast about the money we spend collectively each year on research in our laboratories as well as the time and money we spend in this direction as an Association. It is this very activity that has always enabled us to create better and still better products at still lower cost to the consumer and to build a large increase in volume which has created more and better jobs for our workers. It stands to reason that our research activities

must continue and if possible be intensified if our success is to continue. I might have quite justifiably placed scientific research right at the head of our list of past accomplishments and future requirements.

Fourth, but not least, I would speak of our responsibility to our stockholders, — the people whose money built our plants and created our companies. There have been no major financial debacles in our industry in the past twenty-five years even though our country passed through two of the most serious financial crises in its history. This too we are rightfully proud of and we are proud also of the fact that nearly all firms in our industry have continued to pay regular and reasonable dividends to their stockholders.

Summed up, therefore, we can say very definitely that our job in the future is to be that of the past, namely to satisfy our customers, provide amply for our workers, continue and intensify our researches, and protect the interests of our stockholders. And if there is any weakness at all in our structure, I would say that it is along the lines of cooperative publicity. I know that most of us spend a lot of money for advertising and merchandising our own products, but we are not doing enough of the kind of publicity which the public and medical profession should have to make the progress of our industry and the need for our products sufficiently known to the general public to make it more conscious of the need for them in the preservation of good health and increased comfort. A great deal can be done along this line and it is only through the offices of an Association like this that it can or will be done. An activity like this naturally costs money and the present income of our Association is only sufficient to pay its normal running expenses, so it would be necessary to increase the dues or assume a special assessment for such a project.

I feel also that we have no right to ask any man in business to make such sacrifices as we have asked and received from Ira MacNair as

Secretary of our Association. It is too big a job for any man to handle well and at the same time not neglect his own business. I hope that in the near future we can have a full-time salaried secretary looking after our affairs at headquarters.

During the two years that it has been my pleasure and privilege to serve you as President, I was amazed at the promptness with which most of you agreed to carry out any Association job assigned to you. Usually in association work there is a lot of passing the buck and "letting George do it." In our case, I am happy to say, that with only some minor exceptions, everybody did his job promptly and well, and for this I am most sincerely thankful to you all. I ask that you give my successor the same kind of cooperation that we may then be assured of a progressive continuance of our program. We can only get out of an association the sum total of what we all put into it and in this connection I am reminded of what Henry Heinrich says about picking flowers. "Those who raise flowers find that if they pick them lavishly, the plants will continue to bear many flowers all summer; if they save them selfishly and carefully and do not allow them to be touched, they will go to seed and wither and die. Flowers are not the only pleasures that are doubled and trebled if they are shared. Many of the greatest joys of life will shrivel away if we try jealously to keep every bit for ourselves."

Perhaps fellowship is the greatest thing of all we can get out of an association like this. You know it used to be quite the thing for one to hate his competitor bitterly and especially to have nothing whatever to do with him. It was with the hopes of overcoming this one condition alone that our Association was originally founded. Let us keep on and on with the same spirit of friendly cooperation which we have today, and we are bound to continue doing things for our industry and ourselves.

Finally as we think of the future and wonder what each of us can do to make it continually bright, I

suggest we think and act according to these few words of wisdom once written by Samuel Johnson: "When we build, let us think that we are building forever. Let it not be for present delight, nor for present use alone. Let it be such work as our descendants will thank us for. And let us think, as we lay stone upon stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say, as they look upon the labour and wrought substance of them, 'See! This our fathers did for us.'"

Recent work on the resin from derris root has revealed the presence of a number of new compounds to which its special properties are in part due. Besides rotenone, which is a ketone having the formula $C_{21}H_{22}O_6$, the resin has yielded the following substances:

	Formula	Melting Point
Toxicarol	$C_{23}H_{22}O_7$	232-3°C.
Deguelin	$C_{23}H_{22}O_6$	171
Tephrosin	$C_{23}H_{22}O_7$	198
Sumatrol	$C_{23}H_{22}O_7$	196
Derride	$C_{20}H_{18}O_6$	163

Derride resembles isorotenone and has been prepared from derris root grown in the Netherlands Indies. When recrystallized from methyl alcohol it gave white crystalline needles. Deguelin is isomeric with rotenone, and tephrosin is probably an oxidation product of deguelin. *Manufacturing Chemist* 10, 261 (1939).

In dry-cleaning fluids such as trichloroethylene there is used about 0.2-0.5 per cent of cetylpyridinium bromide or dicetyltrimethyl ammonium bromide or other surface-active organic compound from the group consisting of quaternary ammonium, quaternary phosphonium and tertiary sulfonium salts, the positive ion of which contains an aliphatic radical having a chain of 8 to 22 carbon atoms. Charles Dunbar, to Imperial Chemical Industries Ltd. U. S. Patent No. 2,165,356.



Recommendations for 1940

ROTOPYRESSENOL #20

**The concentrate with the
added value of Moribund "Kill"**

Combining in correct proportions the quick paralytic action of Pyrethrum, with the slower but surer killing action of Dihydrorotenone, supplemented by the activative penetration of Neutressenol, ROTOPYRESSENOL No. 20 is ideal for real general-purpose household insecticides.

Insecticides made with ROTOPYRESSENOL No. 20 fully meet the standards for speed and completeness of knockdown and for 24-hour kill, plus the highly important added values of Moribund "Kill" and real effectiveness against crawling insects.

PYRESSENOL #20 ODORLESS

**For genuinely odorless household sprays
at reasonable cost**

Equally as safe and more effective than Pyrethrum at the same dilutions, with less odor and less color and substantially lower in price, PYRESSENOL No. 20 ODORLESS solves the problem of making odorless insecticides at reasonable cost. It is also especially advantageous for the semi-concentrates used in steam and electric vaporizers.

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LOOKING BACKWARD—

How the N.A.I.D.M. was founded to "protect" manufacturers against the Insecticide Act of 1910, - a brief history of its activities

By Fred A. Hoyt

President, N.A.I.D.M., 1925-27

TODAY we meet to celebrate the 25th anniversary of the founding of this Association. In attempting to give you a brief history of its accomplishments, I think it would prove of interest to go back a few years before its organization in 1914 to that period when this industry was in its swaddling clothes, and consider the reasons that led to the formation of the Association.

There is an old saying: "Where ignorance is bliss, 'tis folly to be wise." That may be the reason for speaking of the Gay Nineties. Those were the happy days when no one worried about the typhoid fly, malarial mosquito, or rat fleas. Mothers never gave a thought to *staphylococcus aureus* when one of the children had a minor cut or skinned knee.

Now I would not infer scientists had not made progress since the days of Pasteur, Koch or Lister. In the nineties you could find the formula for making Liquor Cresolis Compositis in the Pharmacopoeia. From the druggists shelves you could obtain Lysol, Pearson's Creoline, Sulpho-Naphthol, Chloro-Naphtholeum, Kreso, and other germicidal preparations.

At the turn of the century, the public became more germ conscious with an increasing number of companies putting out products to protect health. Steam distilled pine oil was put on the market about 1904. How-



Fred A. Hoyt

ever plant insecticides had been in common use for years, with varying and uncertain effects in most cases. Complaints from users of agricultural insecticides resulted in the Government passing the Insecticide Act in 1910,—an act for preventing the manufacture, sale or transportation of adulterated or misbranded Paris greens, lead arsenates, and other insecticides, and also fungicides of one kind or another.

In the meantime two English scientists developed a method for determining the carbolic acid coefficient of disinfectants, known as the Rideal-Walker method. Some time during the years 1910 and 1911, agents for the Insecticide and Fungicide Board bought in the open market packages of disinfectants and antiseptics, and had them examined by the Hygenic

Laboratory. In 1912 the Public Health and Marine Hospital Service issued Hygenic Laboratory Bulletin No. 32. Part 2 of which, was devoted to the phenol coefficient of various commercial disinfectants that had been bought and tested.

In 1912 the Insecticide Act of 1910 was revised to define the term fungi. "The term 'fungi' as used in this Act and these regulations is understood to mean all nonchlorophyll bearing plants of a lower order than mosses and liverworts, comprising rusts, smuts, molds, yeast, and bacteria." When bacteria were classified as a fungi, it brought all companies manufacturing or distributing disinfectants, germicides, and antiseptics, under the jurisdiction of the Insecticide and Fungicide Board. Dr. J. K. Haywood was the first Chairman of this important Board. He held that office for many years and seldom missed attending our meetings. The older members remember his pleasing personality and willingness to help in those troublesome days, as far as the duties of his office would permit, and the determination with which he enforced the law. In the late 20s the Insecticide and Fungicide Board was merged with the Food and Drug Administration.

Any Government regulation causing radical changes in business methods usually creates misunderstandings. Especially was this so when the Insecticide and Fungicide

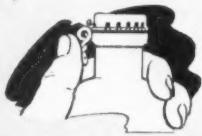
IT'S A HONEY OF A CLOSURE - and now the price is down !

H-mm, so you think this KORK-N-SEAL is the answer to our sealing problem, eh ?

No doubt about it! And with that handy lever, we have a wonderful talking point with the trade. The cap is a natural !



TO OPEN — you simply raise the handy lever and the cap lifts right off.



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The first really satisfactory cap for sealing and re-sealing oval pouring spouts. Makes a positive seal at all points of the spout, even at the pouring point. Easy to remove, easy to replace. Ideal for products that present a pouring problem. Full information, samples and prices are available.

"When It's Easy To Pour — It's Easy To Sell!"

Is your product a hard one to hold in glass or tin? Let KORK-N-SEAL go to work for you. No matter how tough the assignment, KORK-N-SEAL will do a perfect sealing job. And with the new low prices, this unique closure is now available to hundreds of manufacturers who have to watch every item of cost.

For perfect sealing, easy opening, convenient re-sealing—for a much-needed talking point to stimulate your sales —use KORK-N-SEAL. It's the simple, but complete, answer to your closure problems.

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KORK-N-SEAL

THE CAP WITH
THE HANDY LEVER

A detailed line drawing of a KORK-N-SEAL cap. The cap is cylindrical with a lever on the side. A small diagram shows the lever being pulled, with the text "THE LEVER LOCKS IT" and "CAP HOOKS ON HERE".

Board commenced to issue citations. In June, 1914, Service and Regulatory Announcements printed a list of the first 100 cases. Most of these were against plant insecticide manufacturers.

DURING the latter part of 1912 or in 1913 my old friend March Bennett of the Samuel Cabot Company of Boston suggested an organization of the industry for the protection, advancement, and mutual interest of its members. As more companies became involved with the Act, Frank Hemingway, a plant insecticide manufacturer, called a meeting in New York City of 18 or 20 leaders in the industry. From out of that meeting the Insecticide and Disinfectant Manufacturers Association was organized and incorporated in New York State in October, 1914.

The first regular meeting was held at the Hotel Astor on December 3, 1914. During the year 1915, three meetings were held. In Cleveland, May 24-25. In Chicago, August 9-10, and the first annual meeting in New York at the Hotel Astor, December 11-12. A total of 41 members joined the Association during 1914-15. Since then all of the annual meetings have been held in New York City with the exception of this meeting and the fourth annual meeting held here in Washington, December 10-11, 1917. The majority of semi-annual meetings have been held in Chicago in June. It was the policy in the earlier days to hold meetings in different sections of the country to attract new members. Meetings were held in St. Louis, Cleveland, Atlantic City, Montreal and Quebec. There is much that could be said about these earlier meetings if time permitted. Sometimes only 15 or 18 members would attend the semi-annual meetings, but the officers carried on against conflicting opinions and financial problems.

Frank Hemingway was the first president of the Association, holding office until 1920. Harry Cole held the office in 1920-21. M. M. Marcuse 1922. C. C. Baird 1923-24. Fred Hoyt 1925-26-27. H. W. Hamil-

ton 1928-29. Robert C. White 1930-31. Evans E. A. Stone 1932. Peter Dugan 1933-34. Charles P. McCormick 1935. W. B. Eddy 1936-37. J. L. Brenn 1938-39.

Benjamin M. Kaye was our first secretary and held the office until 1920. C. C. Baird served for one year, and then Harry Cole served for nearly 15 years. We owe much to the memory of Harry Cole who devoted the prime of his life unselfishly to the interests of this association.

Harry J. Schnell was the first treasurer and served until 1922. He manifested his interest in the work of the Association by giving the young industry valuable publicity in the pages of *Oil, Paint and Drug Reporter*. After Mr. Schnell's resignation our old friend Robert J. Jordan held the office of treasurer for over 12 years. Since then our very efficient John Powell has checked and double checked the financial affairs.

In the early 20s the plant insecticide members feeling their troubles with the Insecticide Act had been quite well ironed out gradually withdrew from the Association. For two or three years, it was a struggle for existence with loss of members, fading interest, and financial problems. At this period, it was voted to invite "associate" memberships. These companies selling products to our industry accepted the invitation and added a new spirit. For a few years the disinfectant manufacturers and distributors predominated, carrying on the activities. In the later 20s, the business in pyrethrum sprays began to grow rapidly and this new line of manufacturers readily became members. This group of business and scientific men have done much to advance the work and prestige of the association.

Before closing I would like to mention some of the outstanding activities of the Association during these 25 years. The first and most important was to assure Government officials of the desire of its members to cooperate with them to the fullest extent in improving standards of quality of their products and the

elimination of misbranding and adulteration. Then there was the long tedious period of work by both Government officials and our scientific members developing a method for determining the carbolic coefficient of disinfectants that would give reasonably concordant results between the different laboratories. Much credit for this must be given to Dr. George Reddish, Dr. Wm. Dreyfus, Dr. H. D. Pease and John Wright.

There has been a constant watch all these years to protect the industry from discriminating state laws. The Proprietary Association helped in this. In 1926 the Association adopted a Code of Ethics to improve the standards of business conduct. In 1927 two of our officers attended a hearing in Indianapolis before a member of the Federal Trade Commission to help straighten out two cases of commercial bribery brought against members of our industry. Members have received valuable aid in having label difficulties overcome, and through our regular and frequent bulletin service have been advised of changes or decisions in Federal and State laws affecting our industry.

In May, 1932 *The American Journal of Public Health* devoted eight pages in giving the results of a report made by Dr. Austin M. Patterson, a noted lexicographer, defining the words Germicide, Bactericide, Antiseptic, Disinfectant, Deodorant and Prophylactic. This work was done at the suggestion and expense of the Association to eliminate considerable misunderstanding in regard to use of these terms on labels or in advertising matter.

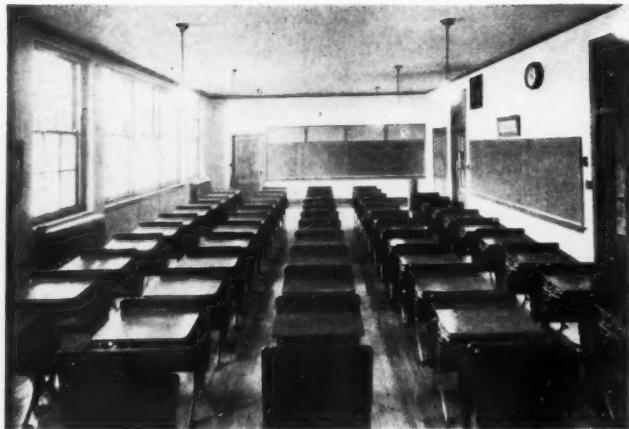
An important accomplishment in recent years was the completion of commercial standards for Coal Tar, Pine Oil, and Cresylic disinfectants, Household Insecticide (Liquid Spray Type), Liquid Hypochlorite Disinfectant, Deodorant, and Germicide. These have been accepted by the National Bureau of Standards and became official for the industry. The value of these commercial standards to our industry, is to give the buyer a

(Turn to Page 121)

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in 1940

During the past fifty-three years Washburn has been constantly improving old finishes and developing new products for the Floor Maintenance Industry.



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Non-Wax

FLOOR FINISHES

PART II

By Charles S. Glickman

Resin No.	M.P.°C.	Sp. G.	Cost/lb.	General Solubility In
1.	127-56	1.03-4	10 ³ / ₈	Paraffines, Hydrogenates, Coal Tars, Terpenes, Chlorinates, Ethers, Tetralin.
2.	110-17	1.04	10	Same as for the above but with the addition of Esters.
3.	127	1.02	3 ³ / ₈	Hydrogenates, Coal Tars, Terpenes, Chlorinates.
4.	114-25	1.04	6 ⁷ / ₈	Paraffines, Hydrogenates, Coal Tars, Terpenes, Chlorinates, Ethers.
5.	102-7	1.04-6	13 ¹ / ₂	Paraffines, Naphthenes, High Naphthenic, Hydrogenates, Coal Tars, Terpenes, Alcohols, Ethers, Alcohol Ethers, Esters, Ketones and Dioxan.
6.	110	1.06	16 ³ / ₄	Same as for the preceding No. 5.
7.	114-23	1.07-8	8 ¹ / ₂	Alcohols, Ethers, Alcohol Ethers, Esters, Ketones, Hexalin.
8.	119-30	1.06-8	8	Alcohols, Ethers, Alcohol Ethers, Esters, Ketones, Dioxan.
9.	120-29	1.06-7	7 ³ / ₄	Same as for No. 8.
10.	129	1.07	8 ¹ / ₂	Same as for No. 8.
11.	135-61	1.07-8	14 ¹ / ₂	Same as for No. 8.
12.	131	1.07-8	14	Ketones.
13.	127	1.04	22	Chlorinates, Alcohols, Ethers, Esters, Ketones, Dioxan.
14.	153	1.04	15 ¹ / ₂	Alcohols, Ethers, Esters, Ketones, Dioxane.
15.	135-50	1.05-9	38	Ketones, Esters, Alcohols, Ethers.

Note 1.—The names of the resins classified according to numbers in the preceding Table 1 are as follows:

1. Pale East India, Nubs, Hiroe
2. Pale East India Singapore Packing, Nubs
3. Batu East India, Nubs and chips
4. Black East India, Bold Scraped
5. Batavia Dammar, A/E Standard
6. Batavia Dammar, A/D Mixed
7. Manila Macassar, Loba C. Bold Pale Chips
8. Manila Macassar, CBB Medium Pale Chips
9. Manila Macassar, DBB Pale Chips
10. Manila Philippine Spirit Soluble, Bold Pale Chips
11. Pontianak, Bold Scraped
12. Boea Manila, Hard Bold Amber
13. Kauri, Pale No. 2
14. Kauri, Brown No. 2
15. Sandarac Gum

Note. 2.—The costs are approximate to within about 1 cent of the market price at the time of writing.

Note 3.—Those solvents which are

generally classified in the preceding Table 1 are specifically identified as to exact name and properties in the following Table 2.

TABLE 2
THE VISCOSITY AND COLOR OF RESIN SOLVENT SOLUTIONS²

Solvent Name and Class (Paraffinic)	Solution of 100 parts of gum in 100 parts of solvent.	Resin No.	Viscosity	Color
91-168 C.	5	A	3	
	6	A	4	
149-207 C.	5	A	3	
	6	A	4	
182-227 C.	5	A	3	
	6	A	4	
266-393 C.	5	A	4	
	6	A	4	
77-121 C.	5	A	4	
	6	A	4	
93-135 C.	5	A	4	
	6	A	4	
113-213 C.	5	A	3	
	6	A	4	

(Table 2 continues on next page)

CONSIDER in more detail the general formulation of the various forms of non-waxy self-polishing floor finishes, and the equipment for manufacture. As stated previously, these products generally consist of natural resins or gums dissolved in hydrocarbon solvents. It is more accurate, however, to state that this general classification can be further subdivided into three parts of which spirit varnishes, characterized by their extremely quick drying and simple composition (merely gums and solvent), is the first, and oil base varnishes consisting of gums or resins dissolved in drying oils such as linseed or wood oil and further admixed with a small percentage of driers and further reduced to the proper consistency with V.M.P., etc., are the second part. Lacquers, nitrocellulose solutions in solvents together with plasticizers or natural or synthetic gums or resins are the third and last part of this broad type of floor finish. We will discuss only the first type of product as sufficient subject matter regarding the two latter types is conveniently available in numerous reference books.

Since a wide variety of components, both natural gums and resins as well as hydrocarbon solvents are available for use in the preparation of this type of product, the general and specific qualities of each, such as their melting points and solubilities, the viscosity of the resultant solutions as well as the color of those solutions will be given in

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Food Colors
Quince Seed
Irish Moss



Table 2 (continued)

Solvent Name and Class	Resin No.	Solution of 100 parts of gum in 100 parts of solvent,	Viscosity	Color	letters correspond to the following viscosities:—
(Paraffinic with Some Naphthenics)					A—0.50 B—0.65 C—0.85 D—1.00
60-92 C.	5	A	3		
	6	A	4		
(High Naphthenic)					
149-207 C.	5	A	3		
	6	A	4		
(Hydrogenates)					
92-141 C.	5	A	4		
	6	A	4		
135-188 C.	5	A	4		
	6	A	4		
(Coal Tars)					
Benzol	5	A	4		
	6	A	4		
Toluol	5	A	4		
	6	A	4		
Xylool	5	A	4		
	6	A	4		
(Terpenes)					
Dipentene	5	A	4		
	6	A	4		
(Chlorinates)					
Amyl Chloride	5	A	9		
	6	A	7		
Monochlor-benzol	5	A	3		
	6	A	4		
(Alcohols)					
Methyl	7	A	7		
	8	B	7		
	9	A	11		
	10	A	10		
	14	A	16		
Amsol M	10	A	9		
Isopropyl	5	A	4		
	6	A	4		
N-Butyl	5	A	4		
	6	A	4		
Sec. Amyl	5	C	2		
	6	A	3		
Diacetone	5	A	5		
	6	A	5		
Shellacol	9	A	11		
	15	Soluble	—		
Solox	9	C	11		
	15	Soluble	—		
(Ethers)					
Ethyl	1	A	—		
	5	A	2		
	6	A	3		
	7	C	—		
	9	C	8		
	10	C	7		
	15	Soluble	—		
N. Butyl	15	Soluble	—		
(Alcohol Ethers)					
Butyl					
Carbitol	15	Soluble	—		
(Esters)					
Ethyl Acetate	5	A	3		
	6	A	3		
	9	B	9		
	15	Soluble	—		
Butyl Acetate	5	A	2		
	6	A	3		
Amyl Acetate	5	A	4		
	6	A	4		
(Ketones)					
Acetone	5	A	4		
	6	A	4		
	7	B	5		
	8	C	—		
	9	A	10		
	10	A	8		
(Misc. Solvents)					
Dioxane	5	A	3		
	6	A	3		

Note:—Only resin solutions having low viscosities—poises of less than 1 at 25°C. (77°F.) have been listed. The

Note:—The numbers correspond to the Gardner—Holt Standards.

While other hydrocarbon solvents other than the petroleum derivatives are capable of producing satisfactory solutions as regards color and viscosity, the fact still remains that the majority of them are too rapid drying to be used for general household or industrial use. We are therefore listing in the following Table No. 3, precise data regarding the solubility properties of certain specific gums in the normally obtainable and simpler petroleum derivatives.

For purposes of exact information, the trade names and such important identifying properties of the specific solvents as type, distillation range and specific gravity are supplied as well as the color and the viscosities of the resultant gum-solvent solutions. As in the case of the preceding Table 2, only those resins capable of solution in a degree greater than 50 parts of resin in 100 parts of solvent are listed.

— * —

detail. While all of this information is at present available in the literature (4) from which the data for these tabulations has been taken, it requires considerable study and effort to select the specific material required. Table 1 (previous page) presents the general properties of the natural gums and resins.

THE actual preparation of these finishes from their respective constituents,—solvents and resins, is simple and quite along the order of solvent wax preparations with the exception that no heat is used. The accompanying diagram illustrates a typical plant-set-up suitable for the preparation of these products. It consists, as can be seen, of a mixing kettle fitted with a slow speed agitator, a storage tank for the completed solution, another storage tank for mixture and storage of the

TABLE 3

Solvent	Type	Sp.Gr.	Dist. Rge.	Resin No.			
				1	2	3	4
D. C. Naphtha	P	.748	91-195°C.	A-4	A-4	C-10	—
Varnolene	P	.782	149-300	A-5	A-3	—	—
Kerosene	P	.809	182-360	D-3	D-3	—	—
Torch Oil	P	.864	266-510	—	—	—	—
Sol. Naphtha No. 54	P	.720	77-170	A-4	A-4	B-9	—
Sol. Naphtha No. 55	P	.735	93-100	A-5	A-4	D-9	D-10
V.M.P. Naphtha	P	.771	113-235	A-4	A-4	—	—
Varsol No. 2	P	.790	149-300	A-4	A-3	—	—
Solvesso No. 1	H	.795	92-198	A-4	A-4	D-10	—
Solvesso No. 2	H	.852	135-275	A-3	A-3	—	—
Solvesso No. 3	H	.884	180-356	B-4	A-3	—	—
Solvesso No. 4	H	.930	205-401	—	—	—	—
Petrobenzol	PN	.699	60-140	A-4	A-3	B-7	A-9
Troluol	PN	.733	93-200	A-4	A-4	C-8	D-10
Apcothinner	PN	.758	177-243	A-4	A-4	D-9	—
Apco 125	PN	.784	163-325	B-4	A-3	D-7	—
Apco B-75	PN	.798	174-345	—	C-3	—	—
Sunoco Spirits	N	.801	149-300	A-4	A-3	—	—
Special Sunoco Spts.	P	.784	149-300	A-3	A-3	—	—
Sinclair Rubber Sol.	P	.708	48-118	A-4	A-4	B-8	A-10
Sinclair Naphthol	P	.735	87-189	A-4	A-3	C-9	D-10
Sinclair V.M.P.	P	.745	97-206	A-4	A-4	D-9	—
Sinclair Solvent	P	.783	153-307	C-4	A-3	—	—
Sinclair Odorless Insecticide Base	P	.790	178-353	—	D-3	—	—

Note:—Under the heading of type, the letters stated have the following designations:

P—Paraffinic derivative
PN—Mixed Paraffinic, Naphthenic
N—Naphthenic Derivative
H—Hydrogenates

Note:—Under Resin No., the following resins are meant:

1—Batavia Dammar A/D
2—Batavia Dammar A/E
3—East India Macassar Nubs
4—East India Singapore Nubs

Note:—The letters 'A' to 'D' correspond to the same designation and value of viscosity as used in the preceding Table 2.

Note:—The numbers correspond to the same designation of value and color as used in the preceding Table 2.

Where it is desirable to prepare low priced products, the Manila gums can be used to advantage. The following table will feature the exclusive use of alcohols as solvents for the gum used:

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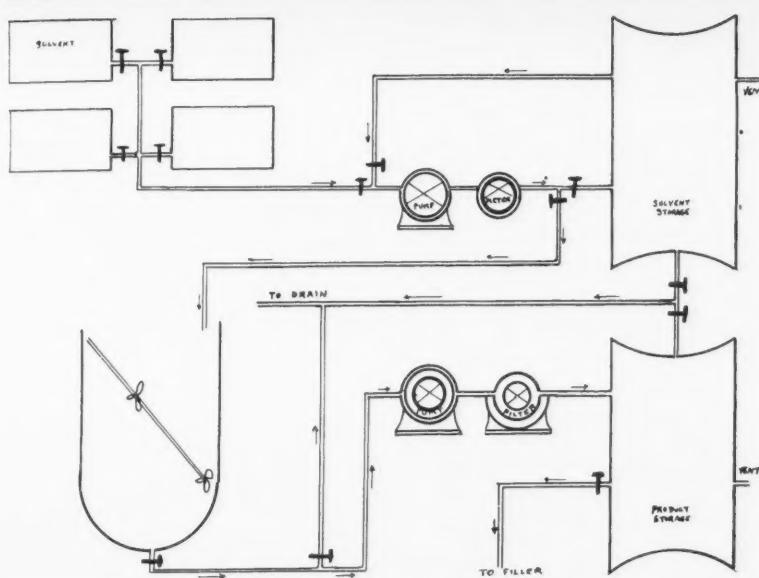


TABLE 4
CHARACTERISTICS OF MANILA GUM-ALCOHOL SOLUTIONS

Solvent	Manila Macassar		Manila Loba					CNE	DUST
	WS	MA	A	B	C	D	DK		
Methyl	D-7	C-12	—	C-5	D-7	B-10	A-12	A-9	A-15
Ansol M	—	—	—	—	—	—	A-12	—	A-15
Solox	—	—	—	—	—	—	B-12	—	A-15
Shellacol	—	—	—	—	—	—	B-12	—	A-15
C.D. No. 12	—	—	—	—	—	—	C-12	—	A-15
Isopropyl	—	—	—	—	—	—	—	A-	—
Cellosolve	—	—	—	—	—	—	—	—	A-15

Solvent	Manila Macassar		Philippine Manila (See Note 1)					
	CBB	DBB	I	II	III	IV	V	VI
Methyl	B-7	A-9	—	B-9	D-10	A-11	B-12	A-13
Ansol M	—	C-9	—	—	D-10	A-11	C-11	B-12
Solox	—	D-10	—	—	D-10	C-11	D-12	D-12
Shellacol	—	—	—	—	—	C-10	C-10	C-12
C.D. No. 12	—	—	—	—	—	D-10	—	—
Isopropyl	—	—	—	—	—	—	—	—
Cellosolve	—	—	—	—	—	—	—	—

Solvent	VII	Pontianak		Bold		Hard Bold Dark
		Mixed Bold	Chips	Hard Bold White	Hard Bold Dark	
Methyl	A-13	D-8	A-13	C-5	A-10	
Ansol M	B-13	—	D-13	D-6	B-9	
Solox	D-12	—	D-13	D-7	B-8	
Shellacol	C-12	—	D-13	D-7	D-9	

Note 1—The roman numerals indicate various grades of Philippine Manila resin as follows:

- I—Extra Bold Pale Scraped
- II—Bold Pale
- III—Bold Extra Pale Sorts
- IV—Bold Pale Chips
- V—Pale Small Chips
- VI—Bold Amber Sorts
- VII—Seeds and Dust

Note 2—The indicated letters and numbers shown in the table portray the viscosity and color respectively of the various solutions and correspond to the values stated for the previous tables. The solutions indicated are prepared from 100 grams of resin and 100 c. of the solvent, yielding 50 per cent solutions.

solvent, a pump and meter for transferring and metering the solvent entering into the storage kettle and also by proper manipulation of the valves, the metered transfer of the solvent to the mixing kettle. Another pump and filter press are used to remove and clarify the completed solution from the cutting or mixing kettle.

For large scale operation where labor can be reduced to a minimum, an automatic feeding device for sup-

plying the resin to the solvent in graduated and controlled amounts is suitable. The principle is quite simple and if so desired, a coordinated time control between the agitator on the mixing kettle and the resin feed device can be likewise made a part of the arrangement. The use of such a device allows of increased production capacity and the additional advantage of less powerful agitators as the solution rate is more rapid where the solute is added to the solvent in small amounts as compared with the addition of all of the solute to the solvent.

Suitable care in operation and installation must be taken to protect against accidental ignition of the solvent either through sparking of the agitator or pump motors or through static discharges. The former can be eliminated by use of spark-proof motors and the latter by suitable grounding of all the equipment.

It will be noted that no exact formulae have been supplied for any of these preparations. This is due to the fact that individual desires and requirements so differ as to make formulae for solutions of specific color and viscosity as well as drying time very difficult to state. We do wish to mention at this point however that blends of different resins as well as solvents can be utilized to create light colored products of variable drying times and viscosities. While it is possible to create such products empirically from the data and the data sources given, the best results are obtained by actual experimental formulation.

An approximate means of determining the general evaporation rate of a solvent can be obtained by use of the following formula—

$$\text{Evaporation Rate} = \frac{\text{Vapor Pressure} \times \text{Mol. Wgt.}}{11}$$

It should be remembered that this formula while closely agreeing with experimental results obtained in actual tests can be used only for pure compounds. The obtained value

(Turn to Page 127)

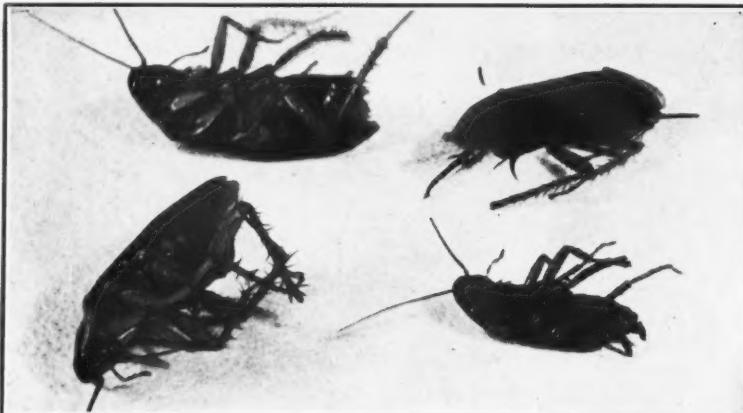
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*By Cady S. Carl**

Allaire Woodward & Co.

PYRETHRUM is a flower much like the common daisy, with a yellow center and white petals. It contains two chemical compounds known as *Pyrethrin I* and *Pyrethrin II*, which are toxic to insects, cold-blooded animals and fish, but which are harmless to warm-blooded animals including man. Pyrethrum was originally grown commercially in Yugoslavia. Today, however, there are other sources of supply, the principal crop coming from Japan, a small but very valuable crop coming from Kenya in South Africa, two new crops within the last few

years from Brazil and the Argentine, and experimental crops being studied in several places in the United States.

The plant on which the flowers grow is about 2½ to 3 feet high. The flower is allowed to mature before it is picked. Only the flower head is picked and this work is entirely hand labor. This is one of the important factors which must be considered in the experimental work in this country. The flowers are dried, compressed into bales weighing about 440 pounds, and exported in this form. The conversion of these flowers to fine powder, G.F.P. (ground for percolation) pyrethrum and ultimately into oleo-resin, concentrates, finished household and cattle sprays, and horticultural dusts and sprays.

together with the testing of all of these materials, is work completed after the dried flowers reach the American market.

In the preparation of pyrethrum powder, the compressed bales of flowers are broken up and ground in various types of mills, from ordinary feed mills to very complicated impact pulverizers. It is generally agreed that the flowers should not be overheated in milling as it causes decomposition of the active principle, but there is apparently wide differences of opinion among manufacturers as to how fine or how coarse pyrethrum powder should be milled. Ordinarily, the finer the powder, the better coverage and the greater time of suspension in the air, yet there

*Address before Seventh Annual Meeting, Natl. Pest Control Assn., New York, October 25, 1939.

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have been powders offered that present mechanical difficulties in application that would indicate they were too fine. It is also true the finer pyrethrum is powdered, the greater will be the rate of decomposition over a given period of time. Every manufacturer has balanced and studied these factors in determining his individual grind. In turn the pest control operator must necessarily select that powder which his experience has shown is most satisfactory for his particular type of work.

Along with the discussion of pyrethrum powder, at least a mention should be made of the so-called concentrated insecticide dusts or impregnated dusts, which are relatively new on the market. I believe their principal outlet has been in the horticultural field, but there have been some quantities used by pest control operators. In general these are inert materials such as celite, diatomaceous earth, talc or bentonite which have been mixed or impregnated with concentrated pyrethrum extract, and with or without the addition of chemical antioxidants. The theory upon which these dusts were developed is based in part on these factors:—In a particle of pyrethrum powder, the active principle is fairly uniformly distributed through the particle, that is throughout the interior of the particle as well as on the surface. In the impregnated dusts, the pyrethrins have been extracted from the pyrethrum flowers, made into a liquid concentrate, and then put back on the outer surface of the inert particle of the carrier. It is claimed that such dusts, although containing relatively smaller amounts of pyrethrins than pyrethrum powders, are relatively more effective.

Pyrethrum extracts generally described as 20 pound concentrates, 20 to 1 or 19 plus 1, are concentrated liquid extracts of pyrethrum flowers representing in broad terms, 20 pounds of high test flowers to the gallon of extract. These are sold on a guaranteed chemical assay of 2.00 grams of pyrethrins per 100 c.c. or 2.4 to 2.5 per cent pyrethrins. A discussion of these specifications will

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fall better into that section of the paper involving testing. These are ordinarily diluted for finished sprays by using one gallon concentrate and 19 gallons of kerosene, or deodorized oil. There are in addition to the commonly used 20 to 1 concentrates, also 30 pound and even 40, 60 and 100 pound concentrates offered. These are sold principally in export trade circles and are generally considered to offer no advantage over 20 pound concentrates for ordinary use.

Pyrethrum Extract is manufactured by three general types of process. Coarse ground pyrethrum flowers (granular or G.F.P.) are generally used and in one process, primary extraction is made with ethylene dichloride, a solvent very similar to chloroform. The solvent is distilled off under vacuum and the resulting oleoresin (a gummy molasses-like substance containing all the pyrethrins and some inert material) is re-extracted with kerosene, or odorless kerosene, is allowed to settle, refrigerated, filtered and standardized. A second process following the same principle as just described, employs the use of pentane (substantially casing head gasoline) instead of ethylene dichloride.

The third process makes use of a very high pressure continuous press, called an expeller. The pyrethrum flowers are macerated or soaked in kerosene, or odorless kerosene, and this mixture is put through the press, expelling almost all of the liquid part. This liquid extract is then put back on another portion of fresh flowers and the process is repeated until the extract is of proper strength. It is then refrigerated, filtered and standardized.

Naturally there are many details involved in all of these three processes requiring expensive equipment, chemical control, and long experience in order to assure uniformity, clarity, stability and low cost. Some manufacturers have in recent years added chemical antioxidants to these concentrates in order to retard oxidation and decomposition, but it has not been uniformly acknowledged as necessary. Properly manufactured

extracts will keep for long periods of time under ordinary conditions of storage without material loss of strength. Occasionally peculiar color developments in pyrethrum extract have been traced to reactions of the antioxidant used.

As far as testing and analyzing these products are concerned, few pest control operators or insecticide manufacturers have adequate laboratory facilities for doing this work and they are dependent upon the guarantee and the integrity of the manufacturer, excepting in so far as practical experience serves as a guide. However, pyrethrum flowers ground or powdered, can be evaluated by several methods. The two best known being Gnadinger and Corl, and the Seil method. The Gnadinger and Corl copper reduction method is somewhat more complicated and requires more technique to insure accurate results than the Seil method does. The Seil method, I believe, is in more general use in most laboratories. The Seil method on the average gives results which are slightly higher than the copper reduction method and the question as to which is correct is a matter of personal scientific opinion. For practical purposes, either is adequate.

Now when it comes to testing pyrethrum extract, of the two methods just discussed, the Seil method is the only one that is applicable to concentrates and finished sprays. To explain a question that is occasionally raised why some manufacturers label their concentrate 2 grams per 100 c.c. or 2.4 per cent pyrethrins, and others 2 grams per 100 c.c. or 2.5 per cent pyrethrins, it can be said that the strength of the two concentrates are identical and that the difference in the percentage figure is due to the specific gravity of the solvent used. That is, the solvent (kerosene) in one case may weigh 6.7 pounds per gallon and the other 6.6 pounds per gallon.

The Peet-Grady method which is in general use for evaluating both concentrates and finished sprays has had the attention of the manufacturer

of both concentrates and finished sprays as well as the pest control operator for some time. It was originally devised to sort out from a number of synthetic materials those which might be satisfactory insecticides. Since then, it has been improved and used as a standard test for the evaluation of such materials. It employs a six-foot cube chamber, properly equipped, ventilation, laboratory raised flies which are counted and sprayed under a specified procedure involving time, temperature, humidity and amount of spray. Comparisons are made with a standard insecticide known as the O.T.I. (Official Test Insecticide) and differences between the insecticide under test and the O.T.I. are indicative of its value. It is the only method we have available for evaluating sprays made from mixtures of active synthetics and natural materials. It is generally included in all government bids as part of the specifications and has found general use in the trade.

However, from my own personal experience,—based upon a great deal of work in our own laboratory, and an exchange of information of different operators, together with my observations that no two laboratories in the country are operating exactly under the same conditions, together with hundreds of cases where duplicate samples have been sent to different laboratories and have not been reported out in the same order of relative toxicity, is that this method of testing concentrates and finished sprays does not give the average pest control operator who is obliged to limit his investigations to a relative few tests,—due either to the obligations involved or the expense,—a satisfactory method of evaluating insecticides. On the other hand the larger corporations who have adequate laboratories and a staff of entomologists can I believe arrive at a better answer due to the fact they run literally thousands of tests in arriving at conclusions as to the relative value of the different materials offered.

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tutes for pyrethrum, which have come into the market in the past few years. Some of them have been established through years of research effort and through many changes. Others are relatively new and untried. Obviously in time, certain of these will find their places, but it is my earnest conviction that until such a time when these materials can be evaluated chemically, and biologically correlated, that they are in the same position that pyrethrum was some 15 years ago. The outstanding example of that time being the erroneous belief that Dalmatian flowers were superior to the Japanese. It has since been proved that it is just the other way around.

In addition to summarizing what has been covered in a general way, I would point out the following:

In order of quality pyrethrum flowers as they come on the market are classified as follows:

Kenya Flowers testing 1.3 to 1.5%
Japanese Flowers testing .9 to 1%
Dalmatian Flowers testing .6 to .7%
Brazilian Flowers testing .6 to .7%

They may be analyzed by several methods giving fairly concordant results. Concentrated pyrethrum extract, 20-1 strength, is generally analyzed by the Seil method. Concentrated pyrethrum extract can be tested on dilution, the same as finished sprays, by the Peet-Grady method, the average results being far from satisfactory.

Pyrethrum products of all kinds should be kept in as cool storage as is available at all times. Liquid extracts should be kept in the dark and out of contact with such materials as lead, zinc, brass, or galvanized metal, as well as glass containers. Under ordinary conditions of storage, properly made pyrethrum extract, can be kept without appreciable decomposition over long period of time. From both the scientific and practical viewpoint, pyrethrum holds an enviable position as a very satisfactory insecticide material, for both the householder and the pest control operator, based upon many years of practical use and research.

Looking Backward (From Page 107)

better understanding of what he may expect from the seller.

The Association has always extended the welcome sign to all federal and state officials who may be interested in the activities of our industry, and over the years, many have attended our meetings. These contacts have created a better understanding between these governing bodies and the work of the Association. It is always an honor and a pleasure to have them meet with us.

I wish time would permit mention of the names of those members, especially committee chairman, who have given so freely of their time to make this organization what it is today. You know many times the officers receive credit for a good job that has been done by someone in the ranks.

And the Association cannot overlook the wide publicity and general support which it has received over the past fifteen years from its official publication, *SOAP AND SANITARY CHEMICALS*. In addition, the personal interest of its publishers has been invaluable.

Our industry has long since discarded its swaddling clothes. The years have passed too rapidly even though some have been filled with trials and tribulations. As in the past, may the good fellowship and friendly cooperation continue in the years to come. And, as the well written Anniversary Booklet says: "Now we come to a sign that says. Winding Hill Ahead."

Mosquito Larvicide

The formula of a New Jersey mosquito larvicide consists of 6 gallons of kerosene containing pyrethrum, 3 gallons of water and 6 oz. of neutral emulsifier. There should be the equivalent of 1 pound of pyrethrum flowers or 0.9 per cent actual pyrethrins per gallon. The recommended emulsifier is sodium lauryl sulfate, which makes the larvicide compatible with fresh, hard and salt waters. The larvicide is fully as effec-

tive as oil and can be used in many places where oil cannot be used. Before use, the concentrate is mixed with 10 parts of water. The mixture should be sprayed at a pressure of 100 pounds per square inch. Joseph M. Ginsburg, *N. J. Agr. Expt. Sta., Circ. 382*, 1-4 (1939).

Rotenone Determination

In the analysis of cube powders by the Jones-Graham method higher percentages of rotenone were obtained, and the rotenone-carbon tetrachloride solvate crystallized more readily and had a purer composition when decolorizing carbon was used in the chloroform extraction flask. The use of carbon in the extraction flask, in the case of the derris powders tested, caused no significant difference in the results for rotenone. J. J. T. Graham, *Jo. Assoc. Official Agr. Chem.* 22, 408-11 (1939).

Spreading Power

For aqueous mixtures of sodium carbonate with the fatty acids caproic, caprylic, capric, lauric, myristic and palmitic, with the fatty acids at a concentration of 1 per cent, the surface tension, interfacial tension against mineral oil, and spreading coefficient, when plotted as functions of the alkali-fatty acid molar ratio, give curves which are similar in form. Surface tension values are lowered with an increase in the molecular weight of fatty acids, as are also interfacial tension values against mineral oil. The spreading coefficient increases with an increase in molecular weight.

The characteristics of the carbonate-soap mixtures are similar to those of sodium hydroxide-soap mixtures, with some differences which are apparently accounted for by the diacidic nature of the carbonate. Oleate mixtures, studied previously, have exceptional properties by comparison, which help to explain their excellence as detergents. H. L. Cupples, *Ind. Eng. Chemistry* 31, 1307-8 (1939).

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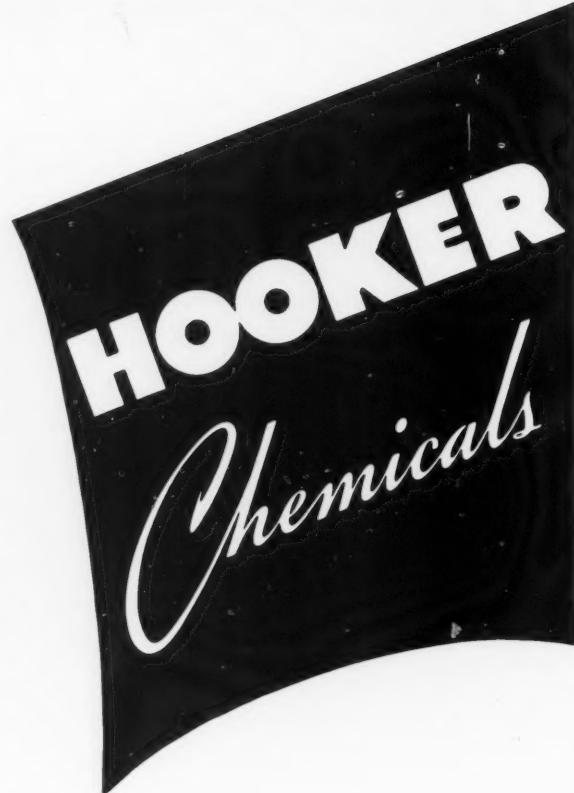
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Insect Olfactory Responses

Construction and use of an olfactometer for muscoid flies, and a discussion of interpreting results

By Craig Eagleson

Bureau of Ent. and Plant Quarantine
U. S. Dept. of Agriculture

IN insect olfactometry aberrant reactions and uncontrollable stimuli so often confuse the results that the technic is practically an art and demands a considerable knowledge of the normal behavior of the subjects. Good judgment and discretion are needed to interpret the crude data obtained by the use of an olfactometer.

Theoretically, olfactory responses of insects are purely mechanistic. The behavior of insects is considered to be response to the algebraic sum of all stimuli impinging on them. Provided the theory of mechanistic behavior is valid, results obtained with a device to measure reaction to a specific stimulus are dependable only when all stimuli but one remain constant, a requirement practically impossible to achieve. Results of sufficient reliability to be useful in entomology can, however, be obtained by the use of several different types of olfactometer, though great precision such as is obtained in toxicological investigations is doubtless beyond achievement by present methods.

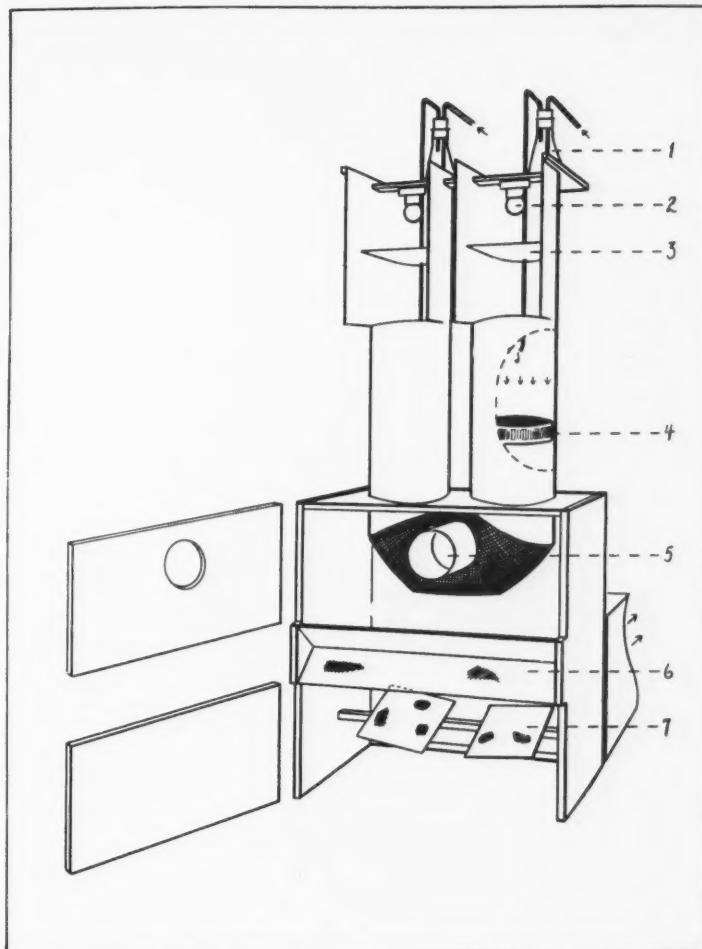
The olfactometer here described was designed and built at the Dallas, Tex., laboratory of the Bureau of Entomology and Plant Quarantine. It has given consistent results in testing the reactions of *Musca domestica* L., *Stomoxys calcitrans* (L.), and *Cochliomyia americana* C. and P. to certain chemicals.

The insect compartment consists of two tubes of nickled sheet metal 15 cm. in diameter by 60 cm. long connected by a U of 18-mesh

wire screen. The upper part of each tube is slit lengthwise and opened out to form a trough. The sides of the troughs extend forward to prevent diffusion of odors between the tubes.

Two short cylinders of sheet

metal, with a disk of screen (4) soldered across the top and with corduroy cloth cemented around the circumference, fit snugly into the cylindrical arms of the U. The position may be adjusted to change the effec-



Insect olfactometer. 1, flask for test material; 2, electric light; 3, paper light diffusion septum; 4, movable screen partition; 5, port for introducing flies; 6, window; 7, mirrors.



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tive length of the insect compartment. A metal tube (5) extending through the wooden case provides a port for the introduction of the insects.

The screen part of the U is enclosed in a wooden box 30 by 45 by 50 cm. Provision is thus made for a controlled stream of air to be drawn through the arms of the insect compartment. The bottom of the olfactometer and the lower half of the rear side are open, permitting it to be placed in either horizontal or vertical position on a table and tight against the vertical orifice of an air duct. This duct contains a suitable rheostat-controlled fan or blower to pull air through the instrument.

Light from 10-watt bulbs (2), uniformly diffused by thin white paper septa (3), acts as a stimulus causing the positive phototropic flies to congregate on the screen septa. The odorous substance introduced into one of the arms acts as a counter stimulus repelling or attracting the flies, depending on its nature.

The number of flies present in either arm of the olfactometer or on the screen septa is proportional to the attractiveness or repellence of airborne odors drawn through the instrument; therefore, records are made only of the flies resting or walking on these septa rather than of the entire number in each arm of the olfactometer.

The odor may be introduced into one arm as vapor through a tube, or materials of low vapor tension may be distributed on a disk of wire screen placed across the opening of the insect compartment. Sufficiently volatile materials are placed in an Erlenmeyer flask or absorption tower, and a gentle stream of compressed air is conducted through it and into the olfactometer through glass tubes as shown in the illustration. If the substance tested is in solution, air bubbled through the pure solvent in another flask or tower is conducted into the neutral arm of the instrument. If the odor used is thought to become adsorbed on the metal wall or screen of the insect chamber, it must be wiped with a cloth pad soaked in a solvent for the substance used.

Owing to the difficulty of seeing insects through the screen septa when looking with the light, two mirrors (7) are mounted in the box to reflect the image of the flies through a narrow window (6) to the observer. Observations are conducted in a darkened room.

The number of insects that may be used depends on the number that can be counted on the screen septa at a glance, this number in turn depending upon the restlessness of the flies. About 35 is a satisfactory number of houseflies.

In some other types of olfactometer it is recommended that the insects be held in a darkened reservoir and suddenly released to go toward the light source, allowing but a single choice between odor-filled and neutral compartments. The relative number of insects in each chamber after a period of time is taken to designate the reaction to the odor. In experimenting with muscoid flies, which in their habitat are continually flying from place to place, it was found that a single observation frequently gave a distorted idea of the relative number of flies in the two sides of the olfactometer. Ten counts of the flies in each chamber made at 30-second intervals provided a truer estimation of a dynamic condition, and was therefore more satisfactory. The summation of the ten counts for each side was used to calculate the relative attractiveness or repellence of the material tested.

Theoretically there should be a 50:50 distribution of flies between the sides of the olfactometer at the beginning of a test. Practically it is not feasible to wait for the flies to become so exactly distributed. It is preferable to make a set of observations (at least 10) immediately prior to introducing an odorous substance to determine whatever bias there may be in the distribution. This bias is considered in calculating the olfactory ratio.

A scale by which values of both attractiveness and repellence could be stated was needed to express the results of olfactory tests. The word "reactance" was chosen to designate a scale ranging from +100 to -100, positive values meaning attraction and negative values, repulsion. Zero indicates no response.

Rough ratios of reactance would be

$$C = \frac{100 \times O}{O + N}$$

where C = control or blank ratio, O = sum of numbers on side to be perfused with odor, and N = sum of numbers on neutral side, and

$$E = \frac{100 \times O'}{O' + N'}$$

where E = experimental ratio, O' = sum of numbers on odor-perfused side, and N' = sum of numbers on neutral side.

Reactance (R) may be considered to be the change in populations of the two sides caused by the introduction of an odor, expressed as a percentage of the original bias (C). Hence,

$$R = \frac{100 (E - C)}{C}$$

This formula for reactance may be applied to any pattern of experimentation, but the reactance values will vary if any condition of the experiment is changed. The time required for flies to escape from a repellent-perfused tube depends upon its effective length, the temperature, the light intensity, the physiological condition of the flies, etc. Consequently, time is a factor influencing the numerical magnitude of the experimental ratio (E). Therefore, values of reactance, to be comparable one with another, must result from observations of identical timing, that is, equal number of observations equally spaced and begun at a uniform time after introduction of the olfactory material into the instrument. The conditions of the experiment should be adjusted for satisfactory operation and maintained constant during any series of comparisons.

It is necessary that the sum of the flies observed on each septum during the control observations (O and N) be more than 50. If a smaller sum is allowed, the movement of one fly from one screen to the other will

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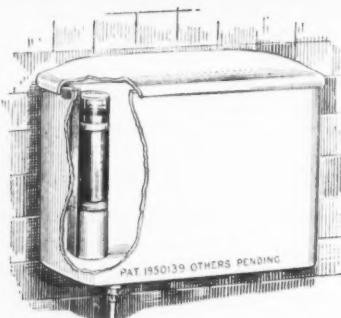
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EXAMPLE OF DATUM SHEET AND CALCULATIONS
MATERIAL: Bone Oil **SPECIES: Stomoxys Calcitrans**

Time	Control Observations		Time	Reactance Observations ¹		N'
	O	N		O'	N	
2:48 p.m.	11	9	2:53 p.m.	11	10	
	11	8			11	11
2:49	12	10	2:54	10	12	
	12	8		9	13	
2:50	10	7	2:55	10	12	
	14	9		8	13	
2:51	12	8	2:56	6	15	
	11	8		5	12	
2:52	11	7	2:57	7	12	
	12	9		5	12	
	116	83		82	122	
	Total 199			Total 204		
	$C = \frac{100 \times O}{O + N} = \frac{11600}{199} = 58$					
	$E = \frac{100 \times O'}{O' + N'} = \frac{8200}{204} = 40$					
	$R = \frac{100 (E - C)}{C} = \frac{100 (-18)}{58} = -31$					

¹ Odor introduced at 2:52:40 p.m.

cause a disproportionately large change in reactance value.

The data obtained in the olfactometer should not be regarded as cardinal values, valid for a particular substance acting on a specified species. They are, nevertheless, valuable indices to relative response to two or more materials.

The functioning of the instrument necessarily presupposes a uniformity of behavior among the flies such that from a reasonably large number of trials an estimate of the characteristic behavior of the species may be made. Generally this is not difficult to accomplish, but rather erratic results may sometimes be obtained. For example, *Stomoxys calcitrans* will usually fly in an opposite direction to an air-borne repellent, but occasionally attempts to escape may be toward the light and in the direction of ingress of the odor. In such a case the observation would yield a positive reactance value, indicating attraction. It is obvious that the entomologist must use considerable discretion in interpreting the results.

For citations to the literature and discussions of other types of olfactometers, refer to:

to include the fact that this type of product has been presented for sale in both glass and metal containers suitably labeled as inflammable mixtures and stating what precautions must be exercised during its use. Directions for its use would state that it is to be applied as rapidly as possible with either a mop or felt applicator to a cleaned and thoroughly dry floor and completely allowed to dry before use.

References

¹ Soap, March 1939, "What Do Specifications Mean?"; October 1938, "Evaluating the Modern Wax Polish"; November 1938, "Evaluating the Modern Wax Polish."

² Soap, March 1937, "Paste and Liquid Solvent Polishes."

³ Soap, October 1938, "Evaluating the Modern Wax Polish"; November 1938, "Evaluating the Modern Wax Polish."

⁴ Data of the American Gum Importers Association, Inc., Brooklyn, N. Y.

Fungicidal Soap

A prophylactic soap against infectious diseases produced by fungi, such as "athlete's foot," consists of a soap to which sodium thiosulfate and a small amount of copper sulfate have been added. Sewell M. Corbett. U. S. Patent No. 2,160,834.

Summary

A U-type olfactometer is described and figured. Flies are imprisoned in a U of adjustable length, one arm of which is perfused with the odor of the attractive or repellent material tested. At regular intervals counts are made of the number of insects resting on the wire-screen septa closing the arms of the U. The formula given for calculation of reactance is

$$R = \frac{100 (E - C)}{C}$$

where R = reactance, C = control ratio of populations before test, and E = experimental ratio of populations after introduction of the odor.

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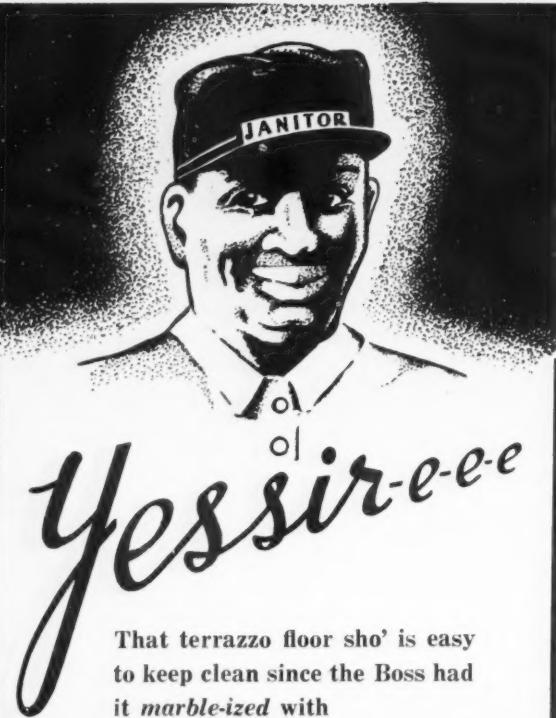
(From Page 113)

should serve as a general guide to the action of the finished product although the use of mixed solvents and the presence of the solute tend to vary considerably the exact rate of evaporation.

A general word about packaging the finished product would have

Mercurials as Germicides

In a series of 60 experiments with dental burrs to study the antibacterial effects of organic mercurial compounds as germicides for the sterilization of surgical and dental instruments, none of the mercurials was found capable of sterilizing the instruments in 24 hours under actual conditions of use. *Clostridium welchii*, *Clostridium tetani* and *Clostridium sporogenes* were used as test organisms. Mercurials tested were mercuric chloride 1:1000, mercurochrome 1:50, merphenyl nitrate 1:1500, metaphenyl 1:2500, merthiolate 1:1000, mertoxol 1:1000, mercarbolid 1:1000, potassium mercuric iodide 1:1000, meroxyl 1:200 and mercuric cyanide 1:1000. An improved centrifuge technique was developed to determine whether the mercurials were capable of destroying spores of anaerobes. None of them was capable of killing spores of tetanus in 24 hours exposure. John H. Brewer. *J. Am. Med. Assoc.* 112, 2009018 (1939) through Chem. Abs.



That terrazzo floor sho' is easy to keep clean since the Boss had it *marble-ized* with

HIGLEY TERRAZZO SEAL

Yes, such a sealed terrazzo floor *is* easy to keep clean, because Higley Terrazzo Seal penetrates deeply into the terrazzo, giving the entire surface the hard, polished appearance of marble.

This non-slippery *marble-ized* surface keeps out all dirt, water, and cleaning agents, preventing crystalline expansion and consequent pitting, as well as protecting the terrazzo against ugly stains and annoying dusting.

Higley Terrazzo Seal is crystal clear and will not darken with time. If desired, a sealed terrazzo floor can be waxed without harming the permanent seal. *Not* a lacquer, wax, nor varnish, this permanent seal is unaffected by periodic cleaning.

Yes, sir! only Higley Terrazzo Seal gives that marble-ized surface which is so easy to keep clean.

An inquiry on your letterhead will bring further information and prices.

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TOILET SOAPS
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standardized—Uniform.

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116 Broad Street

New York, N. Y.

For liberal sample, write
on your business letterhead

NAIDM Program

(From Page 103)

as Dead in the Peet-Grady Test?"—Dr. Alfred Weed, John Powell & Co.

"The Enumeration of the Moribund Fly in the Peet-Grady Test"—Dr. H. G. Whitmire, Whitmire Research Co.

"Necessity of Enumerating Moribund Flies in the Peet-Grady Test"—L. D. Benedict, Midway Chemical Co.

"Uncertainties in Enumerating Moribund Flies in the Peet-Grady Test"—Dr. W. A. Simanton, Gulf Research & Development Co.

Discussion from the floor

"A Study of Insecticide Sprayers"—Dr. F. L. Campbell, Associate Professor of Entomology, Ohio State University

"Legislation 1939-1940"—C. L. Fardwell, McCormick & Co.

"Preparation and Uses of an Allergy Reference Index"—H. C. Fuller, N.A.I.D.M. Technical Consultant

12:30 P.M. Group luncheon

TUESDAY, DECEMBER 5th

Afternoon Session

2:00 P.M. Meeting called to order
Announcements

"Official Methods for the Determination of Pyrethrins and Rotenone"—J. J. T. Graham, Food and Drug Administration. Referee on Insecticides and Fungicides, Association of Official Agricultural Chemists

"Pyrethrum Insect Sprays,—Prolonging Their Toxicity"—Dr. R. B. Trusler, Davies-Young Soap Co.

"Scientific Advances in the Field of Disinfectants During 1939" (by title only)—Dr. E. G. Klarmann, Lehn & Fink Products Co.

Miscellaneous Committee Reports

"Effect of War on Raw Material Markets"—Discussion led by C. C. Concannon, Chief, Chemical Division, Bureau of Foreign and Domestic Commerce

"Pyrethrum"—Lester W. Jones, McCormick & Co.

"Rotenone Products"—Harold Noble, S. B. Penick & Co.

"Cresylic Acid"—J. H. Carpenter, Koppers Company

"Chinawood Oil"—J. H. Lawson, Federal Varnish Co.

"Potash"—S. W. Jacobs, Niagara Alkali Company

"Coconut Oil"—John B. Gordon, Bureau of Raw Materials

Report of Resolutions Committee

Annual Election of Officers and Governors

Unfinished Business

4:30 P.M. Adjournment

6:00 P.M. Cocktail Party

7:00 P.M. Informal Beefsteak Dinner and Floor Show

Chlorine Sterilization

Greater germicidal efficiency of chlorine solution in the dairy industry resulted when the pH of the chlorine solution was 8 or below. A temperature of the solution of 90° F. gave better results for sterilizing treatments than lower temperatures. Chlorine solution held at temperatures between 50° and 90° F. showed no important losses in chlorine content in 30 minutes in the pH range 6-11. The pH value of a solution containing 50 p.p.m. did not change materially through the temperature range 50°-90° F., the actual change being less than 0.5 pH unit. Acid potassium phosphate was a satisfactory agent for adjusting the pH to the desired acid reaction. Two-minute exposure to the sterilizing solution appeared to be insufficient to yield dependable sterility results under the conditions of the experiments. Laboratory and plant tests showed that a solution containing 50 p.p.m. of available chlorine at pH 6 produced as satisfactory germicidal results as a solution containing 255 p.p.m. of chlorine at pH 10.

When the chlorine solution alone failed to produce a sterile condition, the addition of 0.25 per cent of sodium alkylarylsulfonate gave sterility in 3 minutes even with a solution containing only 2 p.p.m. of available chlorine. Spores of *B. subtilis* were killed to the extent of 100 per cent when exposed for 3 minutes to a solution at pH 6 containing 50 p.p.m. of available chlorine and 0.1 per cent of alkylarylsulfonate. The germicidal results with the chlorine solution alone were only 71.9 per cent effective. The sulfonate was a very potent germicide for spores.

A solution containing 0.35 per cent of alkylarylsulfonate showed more germicidal power than a chlorine solution with a concentration as high as 255 p.p.m. When the sul-

fonate is to be used alone as a sterilizing agent at any pH from 6 to 10 and at a temperature of about 70° F., a concentration of 0.35 per cent is recommended. Alkylarylsulfonate is neutral in reaction and produces no corrosion on any metal. It appears also to be nontoxic. F. M. Scales and Muriel Kemp, *Assoc. Bull. (Intern. Assoc. Milk Dealers)* 31, 187-208 (1939); through Chem. Abs.

Perfuming Materials

(From Page 30)

The thyme oil market has advanced in price about 30 per cent since hostilities first began, and shipments of the oil from Spain have virtually stopped. The situation is not as serious as might be indicated though, as supplies are now coming in from other places such as Morocco and Palestine. The oil is quoted at \$1.10 to \$1.15 per pound.

Lemongrass oil has been featured by a steadily rising market over the past few months, advancing from a low of 40 cents per pound to a nominal figure of 75 cents per pound. A shortage in the supply of this oil is evident and little will be available until May, 1940, when the next crop is due.

The Siberian pine needle oil market has also been steadily rising and will probably continue to do so. Supplies have slowed down considerably and shipping conditions have not been very favorable in this market.

A shortage of cargo space for the bulky wood from which sandalwood oil is distilled has been a determining factor in the upward price movement of this essential oil. However, the shortage on spot stocks has been relieved since the start of the war and prices have eased off to \$5.25 per pound, as against \$5.50 in October. The pre-war price was \$4.75 per pound.

Artificial sassafras from Japan is nominal at 75 cents per pound as compared to 39 cents in early September. No offers are forthcoming and users will probably have to look for substitutes before long.

News.....

Cube Patent Decision Upheld

A recent decision of the United States Circuit Court of Appeals for the Seventh Circuit holding invalid the Dennis patent for the manufacture of insecticide in powdered form from cube was upheld when the United States Supreme Court refused to review the decision. In the original action, the American Cube Syndicate and the American Crop Protection Co., charged infringement of the Dennis patent by Agicide Laboratories, Milwaukee, in the use of ground cube root as an insecticide.

FTC Cites "Mill-O-Cide"

Midland Chemical Laboratories, Inc., Dubuque, Iowa, recently signed a stipulation with the Federal Trade Commission that it would cease representing that its insecticide "Mill-O-Cide" is effective in destroying all insects, eggs and larvae of insects, or that it is of double strength, and will prevent or eliminate infestation in foodstuffs.

Wants Polishing Pastes

A firm in Sao Paulo, Brazil, is interested in the purchase of American polishing pastes. Further details may be had by making application to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4292.

Wyoming Chemical Moves

Wyoming Valley Chemical Co., chemical specialties, Wilkes-Barre, Pa., recently moved to new and larger quarters at 463 N. River Street.

Dr. White Loses at Polls

Dr. Robert C. White, Robert C. White Co., insecticide manufacturers, Philadelphia, was defeated in the recent election for Mayor of Philadelphia. Running as the Democratic candidate, he polled 97,945 votes as against 114,541 for the Republican candidate, Judge Robert E. Lamberton. Although defeated in

the election, Dr. White really made a remarkable showing in this Republican machine-dominated city. He carried the final vote to the closest



Dr. Robert C. White

contest waged in Philadelphia in many years. Dr. White is currently serving a term as city controller and will continue in this office. He has long been active in the National Association of Insecticide and Disinfectant Manufacturers, having been president of the association in 1931 and 1932, and a member of the board of governors from 1933 to 1937.

Wants American Insecticides

A firm in Asuncion, Paraguay, is interested in the purchase of American insecticides. More information may be obtained by writing to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4781.

Schwarcz in New Company

Leonard Schwarcz, formerly president of Clifton Chemical Co., New York, has announced the sale of his interest in that concern to Dudley Bachrach and has formed a new company, Ampion Corp. Temporary offices of the new organization have been opened at 11 West 42nd St., New York, and a plant has been leased at 47th Ave. and 5th St., Long Island

City. The plant, formerly operated by National Varnish Co., is 100x140 and consists of two stories and basement. It is being re-equipped for the manufacture of a full line of potash soaps and sanitary chemicals and experimental laboratories are being added. Sales will be made on a country-wide basis through the jobbing trade. Associated with Mr. Schwarcz in the new concern is vice-president B. Benedick, head of Gulf Steel Corp., New York. An affiliated concern will be operated under the name of Tempo Chemical Co. to manufacture boiler compounds, water-proofing materials, sludge removers, special solvents, etc.

Moribund "Kill" Reprints

The two articles on Moribund "Kill" which appeared in the October and November issues of *Soap*, "What of Moribund Kill" by Russell B. Stoddard and "Test Methods for Recording Moribund Kill" by Dr. H. E. Whitmire have been reprinted by Dodge & Olcott Co., New York, in a convenient booklet, copies of which are available to anyone interested in the subject.

Rolstad Joins U.S.I.

M. J. Rolstad has recently been appointed to the sales staff of U. S. Industrial Chemicals, Inc., New York, where he will handle the sales of "Derex," the company's new insecticide concentrate. He will make his headquarters in New York. Mr. Rolstad was formerly with the sales department of Rohm & Haas Co., Philadelphia.

Frank Nelson Operated On

Frank Nelson, entomologist for Stanco, Inc., at the Elizabeth, N. J., plant, was operated on last month for a chronic case of appendicitis at the East Orange General Hospital. Recovery proceeded normally and he was expected to return to active duty early in December.

Issue Roach Paste Folder

Sennewald Drug Co., St. Louis, has recently issued a four-page folder dealing with "Sennewald" roach paste.

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● CRUDE, SEMI-REFINED AND FULLY REFINED GRADES
AVAILABLE IN VARIOUS ACID NUMBER RANGES

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Over seventy years of experience in the manufacturing chemical field insure our ability to supply products of consistent high quality, and definitely standardized as to purity and strength. All GOOD products are priced at levels which enable the jobber to compete on volume business. Ask for a copy of our current price list.

Coal Tar Disinfectants, Coefs. 2 to 20
Pine Oil Disinfectants, Coefs. 3 and 4
Saponated Solution of Cresol, U. S. P.
Cresylic Disinfectant (B.A.I.)
Insecticide Sprays
Soft Soap, U. S. P. (Green Soap)
Liquid Soaps
Soap Bases
Jelly Soaps
Pine Oil Soaps
Potash Vegetable Oil Soaps
Wax Base Floor Cleaner
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Buffing Floor Waxes—Liquid and Paste
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FLOOR WAX

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★★★ *Chemicals*. It will place you in touch with the entire soap and sanitary products industry.

FTC Cites American Products

American Products Co., Cincinnati, has been ordered by the Federal Trade Commission to stop misrepresentations affecting prospective sellers of its products. The company, advertising in trade magazines, daily newspapers, etc., for salesmen, made offers that were exaggerated and untrue, according to the commission; among them, that the company would pay up to \$42.50 a week and furnish cars to salesmen. Also, that the company at its own expense would start salesmen in business and would take all the risk. Findings of the commission are that the average earnings of salesmen under normal conditions are but a small percentage of the amounts named in the advertisements, that no automobiles are given salesmen unless they have purchased not less than \$2500 worth of goods from the company, and that deposits are required from salesmen on all goods or samples supplied.

Aid Insecticide Research

Monsanto Chemical Co., St. Louis, has donated to the University of Illinois a total of \$8,100 to be used in research work. One sum of \$4,500 was earmarked for continuation of a fellowship in insecticides with the State Natural History Survey and the Agricultural Experiment Station. Another gift of \$3,600 is for work on the toxicity of pentachlorophenol and related compounds.

Develop New Bottle Label

A new type of label for use on products packaged in glass has been developed by a Chicago decalcomania manufacturer. The Meyercord Co. Known as a "clear lacquer label," the decal has a transparent backing, which permits the product in the container to show through the emblem on wording of the design.

Thiocyanate Analysis

The increasing use of alkyl thiocyanates in insecticides presents problems in analysis for chemists whose work it is to evaluate insecticides. Little appears in the literature on this subject, so a method was

worked out and published by W. E. Kemp of the Sanitary Research Laboratory of the Canadian National Railways, Montreal, Canada. The method was published under the title, "The Analysis of Aliphatic and Aromatic Thiocyanates," in *The Analyst*, Sept. 1939, Vol. 64, No. 762.

Kenya Pyrethrum Output Up

Pyrethrum flowers, first planted in 1928 as an experiment, have become of considerable importance in the Colony of Kenya, South Africa, according to a report from the American Consulate at Nairobi. Exports of pyrethrum from the Colony during 1938 totaled 4,000,000 lbs., valued at \$900,000, of which almost 90 per cent went to the United States. The 1938 total was almost double the quantity exported from the Colony in 1937.

Elect American-British V.P.

John T. Ames has recently been elected vice president of American-British Chemical Supplies Co., New York and Charles Tennant & Co. (Canada) Ltd., a subsidiary of the former company. Mr. Ames, who is also vice president of Kay-Fries Chemicals, Inc., an associated company, succeeds the late E. H. Watson, whom he had assisted for the past five years.

Zonite Advances White

Zonite Products Corp., New York, recently advanced C. J. White, Montreal sales manager, to Eastern division sales manager.

Edgar M. Jewell Dies

Edgar M. Jewell, associated with Orbis Products Corp., New York, over thirty years, died suddenly on October 26 at the Clifton Sanitarium, Fairport, N. Y. Mr. Jewell had represented the company in New York State, Canada and the Near West.

Danco Again a Father

Gerard J. Danco, president, Gerard J. Danco, Inc., New York, recently became the father of a baby son, the second in the Danco family.

Buckingham Wax Expanding

Buckingham Wax Corp., L. I. City, manufacturers of a full line of floor products, advise that they have recently expanded operations and increased their plant capacity. They now occupy the entire floor space in the three-story, block-square building at Van Dam Street and Borden Ave., L. I. City,—the extension of their quarters allowing more space for storage and packing. Additional equipment for filling and packaging has been installed. Irving Wexler heads the company.

FTC Cites "Elec-Ray"

American Inventions Co., New York, has signed a stipulation with the Federal Trade Commission that it will no longer state that insects coming into contact with its product, a type of lantern advertised as "Elec-Ray Insect Killer," would be instantly killed or destroyed, or that light furnished by the device would attract flying insects in sufficient numbers to make the lantern of distinct value in the control of such insects.

Wants Automobile Polish

A firm in Oslo, Norway, would like to establish an agency for the sale of American manufactured automobile polishes. Further particulars may be obtained by writing to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 4257.

Exhibits at Chicago Show

Industrial Fumigant Co., Chicago, was among the exhibitors at the annual Products Exposition sponsored by the Purchasing Agents Association of Chicago, Nov. 15-16. This concern specializes in pest control work in flour mills, cheese, macaroni and similar food products factories. H. M. Stock was in charge of the booth.

Dallas Chemical Moves

Dallas Chemical Sales Co., sanitary chemicals, Buffalo, has recently moved to new and larger quarters at 151 West Tupper St.

NEW 4 in 1 APPLICATOR



Patent Pending

NEW SAVINGS

THREE TIMES THE WEAR with this new applicator means a big saving for you and a new stimulant for your floor finish sales. Every square inch of the washable wool pad can be used. It has no metal that will mar the most delicate surfaces. Expert construction and best materials assure uniform spreading of all types of finishes on all types of floors. Be the first to show this sensational new development to your customers. Write today.

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Ask for samples
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Small capacity mixer
designed to do its job thoroughly, quickly,
economically. With or without sifter, as shown.
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Draft Model State Labor Bill

A model wage-hour bill for the states which would include restrictions on outside salesmen and administrative employees was given unanimous approval at the Sixth National Conference on Labor Legislation which met in Washington November 14 and 15. The bill was originally drafted last year at the Fifth Labor Conference and met with widespread opposition because of its impracticability as well as its tendency to slow up industry and employment. Introduced in 30 state legislatures, the bill passed in none.

Adopt Insecticide Test Methods

A series of standard methods for testing insecticides and insecticide raw materials was adopted by the Association of Official Agricultural Chemists at their recent meeting in the Raleigh Hotel, Washington, D. C. Holaday's modification of Wilcoxon's Mercury Reduction Method was adopted as an "Official Method, first action" for determination of Pyrethrin I, and a modification of Seil's method was adopted as a "Tentative" method for determination of Pyrethrin II in pyrethrum powder. For use with mineral oil extracts of pyrethrum, the mercury reduction method was adopted as "Tentative" for Pyrethrin I, but no method was adopted for Pyrethrin II in this class of products.

For the determination of rotenone in derris and cube powder, the Jones-Graham method was adopted as "Official, first action." This method as adopted provides for the use of decolorizing carbon in the extraction flasks, and also directs that multiple extraction be used for products in which the ratio of rotenone to total extract is 40 per cent or greater. A method was also adopted for determination of total ether extract in derris and cube powder. The Travers method for determination of fluorine was adopted as a "Tentative" method for use with water soluble insecticides, in the absence of boron, ferric and aluminum salts, and large quantities of pyrethrum. The "Tentative" distillation method for fluorine in the fourth edition of the Book of

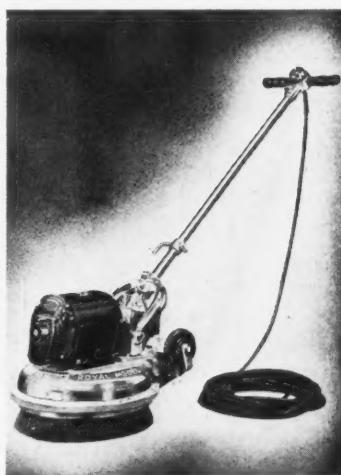
Methods was dropped, and an improved version was then adopted as "Tentative" for use with water soluble and water insoluble insecticides, in the absence of gelatinous silica, boron and aluminum salts. A lead chlorofluoride method was adopted as "Official, first action" for the determination of fluorine in insecticides.

H. W. Linneen Dies

H. W. Linneen, in charge of the specialty division of the Sinclair Refining Co., New York, and active in the household insecticide industry, died suddenly on November 28 at the Doctors' Hospital, New York. He had been in poor health and was in the hospital for observation. He is survived by his wife and three children. Mr. Linneen joined the staff of Sinclair in 1919 shortly after his graduation from the University of Illinois. He was a resident of Manhasset, Long Island. The funeral service were held at Garden City, L. I., on Nov. 30.

New Fay Floor Machine

The Fay Co., New York, has recently introduced a new "Royal Model" floor machine, which is designed for medium work on all types of floors. Interchangeable attachments on the new model make it serviceable for scrubbing, polishing, waxing, steel wooling and light sanding of floors. The machine may be equipped with either 1/3 or 1/2 horse power motor. Literature is available.



SOAP

Insects in Ecuador

The insects in Ecuador actually eat you alive, according to a soap maker who recently returned from working on a project in Guayaquil, Ecuador, for the past year. W. A. Mott of Detroit reports: "You hear lots about the man-eating tigers of India, but you seldom hear a darn word about the man-eating fleas, bed-bugs, ants and mosquitoes of Guayaquil, to say nothing of the scorpions that must be shaken out of your pants every morning. I was stung by the scorpions and eaten by all the other accursed insects. The legs of my bed stood in pans of kerosene or I would not be alive to tell the story. The black ants which specialize in climbing up your bed are three-eighths of an inch long. The burros which carry the loads have to wear "pants" on their four legs because the flies bite so hard, the animal's would kick their loads off if they were not protected."

Government Dept. Names Martin

Dr. Lawrence F. Martin has been appointed senior chemical engineer in the Chemical Engineering and Development Division of the Southern Regional Research Laboratory, New Orleans, U. S. Bureau of Agricultural Chemistry and Engineering.

Testimonial to Jacobs

S. W. Jacobs, vice-president of the Niagara Alkali Co., New York, will be the guest of honor at a testimonial dinner to be tendered him on December 6 by the members of the Chemists' Club, New York, for his many years of activity in the interest of the Club. He has been chairman of the house committee of the Club for the past nine years.

Merz of D. & O. Dead

Frank Merz, purchasing agent for Dodge & Olcott Co., New York, and associated with that firm for the past thirty-three years, died suddenly of a heart attack on November 27 in the New York station of the Hudson & Manhattan Tubes. He was fifty years of age and a resident of Elizabeth, N. J. He joined the staff of D & O in January, 1906, and was well-known in the essential oil trade.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send
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PYLM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters
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A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.



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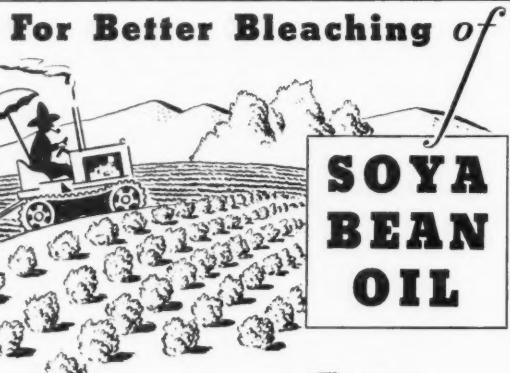
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Products are proving important factors in the phenomenal growth of this industry.

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Exterminators Elect Finneman

J. Finneman, Pest Control Corp., New York, was elected president of the New York Professional



J. Finneman

Exterminators Association at the association's meeting Nov. 3, at the Town Hall, New York. Other officers elected were H. S. Bussell, Bussell Exterminating Co., vice-president; H. Plough, Affiliated Exterminators, treasurer, and M. H. Oachs, Ozane Co., secretary. Directors of the association are J. L. Huberman, Scientific Exterminating Co.; H. Kruse, Metropolitan Vermin Exterminating Co.; S. B. Ascher, Permanent Exterminating Co.; and Wm. Farrell, Effective Exterminating Co. All are from New York. In addition to the election of officers, Mr. Oachs talked on the important aspects of the recent national convention.

New Disinfectant Standards

The Bureau of Standards of the U. S. Department of Commerce has just issued two proposed revisions of commercial standards CS70-XX and CS71-XX for Coal Tar Disinfectants and Cresylic Disinfectants. The principal change in the new specifications is a provision for the inclusion in the new standard of cresylic acid derived from petroleum.

NAIDM Adopts Blue Fluoride

Nile blue has been adopted as the official color for sodium fluoride by the Board of Governors of the National Association of Insecticide and Disinfectant Manufacturers. As

the result of action taken at the recent meeting of the board in New York, blue fluoride will be considered the official standard of the association and its use is recommended to all members of the association and other users of the product in household insecticides.

Chem. Salesmen Xmas Party

The Salesmen's Association of the American Chemical Industry will hold its 1939 annual Christmas Party in the Grand Ball Room of the Hotel Edison, New York, on December 28. A floor show will be the principal entertainment feature as usual, and free drinks will be served at a special bar in the Grand Ball Room from 6:30 P.M. to 7:30 P.M. The party itself will begin at 5:00 P.M. and will last far into the night, giving those present plenty of time to read the special Christmas edition of the "Chemical Peddler." Tables are being made up for parties of 10 and will be set up in the order reservations are received. Price of the party is \$6.00, and reservations should be sent to Philip Lo Bue, Jos. Turner & Co., 630 Fifth Ave., New York.

U. S. Pyrethrum Imports

Imports of pyrethrum into the United States during the first nine months of 1939 totaled 7,168,193 lbs. valued at \$1,592,296. The volume of imports this year is substantially behind the total for the corresponding months of 1938 when 9,527,512 lbs. of pyrethrum were imported, during the same period, valued at \$1,577,893. The higher level of pyrethrum prices this year is clearly shown in the above figures. Although two million fewer pounds of pyrethrum were imported this year in the nine-month period, the value was greater than for the nine months of last year.

Chicago businessmen have issued demands on municipal authorities for action against rats which infest slum districts. Two years ago W. P. A. workers spent \$500,000 on a rat extermination project but conditions today are said to be worse than before that cleanup.

R. L. Williams Succeeds Thomas

R. L. Williams has recently succeeded H. A. Thomas as manager of the specialties division of the tech-



R. L. Williams

nical products department of Shell Oil Co., St. Louis. He will represent Shell in the future in activities of the National Association of Insecticide and Disinfectant Manufacturers. Mr. Thomas is now retail merchandising manager of the company.

Antidote Charts Available

John Opitz, Inc., exterminating products, Long Island City, N. Y., still has a limited number of poison antidote charts available to those desiring them. The chart is said to be the most complete type available, and is the result of a considerable amount of research work, particularly with reference to poisons handled by the pest control industry. The charts are printed on cardboard and on paper and arranged for quick handy reference.

Cite Louse Exterminator

F. R. Glover, Cortland, N. Y., has entered into a stipulation with the Federal Trade Commission in which he agrees to cease representations that his product "Glover's" louse exterminator will keep fowls free from head and body lice and mites of all kinds or will rid one's flock of lice. He also agreed that he would stop representing, through the use of the word "Cure" as a trade name, or in any other manner, that his preparation is a cure.

SOAP BASES—Cocoanut, Green and Corn
DISINFECTANTS—Cresol, Coaltar and Pine
FLOOR PRODUCTS—Rubless, Paste and Liquid Waxes

Write for Samples and Attractive Prices

HOCKWALD CHEMICAL COMPANY

135 Mississippi Street San Francisco, Calif.

Largest Pacific Coast Mfr. of Potash Soaps and Sanitary Products

Valencia Pumice

Reg. U.S. Pat. Off.

Is THE PUMICE for

Powder
Paste
Bar

Mechanic type soap where an abrasive is desired.

Write for samples and 12 page booklet of information

BARNSDALL TRIPOLI CORPORATION
PUMICE DIVISION
(Subsidiary Barnsdall Oil Co.)

SENECA, MISSOURI, U. S. A.



The Bridge on the Label Identifies the Popular DAN-DEE HEAVY-DUTY Water Repellent NO - RUBBING FLOOR WAX

SPECIALLY PRICED FOR DRUMS, $\frac{1}{2}$ DRUMS AND 5 GALLON CANS

Also Manufacturers of Liquid and Paste Wax

PRIVATE LABELS SUPPLIED

FULL DETAILS — GENEROUS SAMPLES AVAILABLE UPON REQUEST.

TWIN CITY SHELLAC CO., Inc.
 340 FLUSHING AVENUE BROOKLYN, N. Y.

DISINFECTANTS
 PINE OIL COAL TAR
 CRESOL COMPOUNDS

LIQUID
 POTASH OIL
 ALCOHOL (U.S.P.)

SOAPS

CLEAR BASE
 POWDERED
 ALCOHOL (U.S.P.)

WAXES
 SOAP

FLOOR
 CLEANERS
 SCRUBS
 POWDERS

KANSAS CITY

ST. LOUIS, MO.

NEW YORK

PECK'S PRODUCTS COMPANY

Pest Control Operators

Meet With Entomologists

A LARGE group of pest control operators attended and participated in an afternoon session of the Annual Meeting of the Eastern Branch of the American Association of Economic Entomologists, at the Hotel New Yorker, New York, on November 16. Of particular interest at this session were three papers on the control of dermestids and clothes moths, bedbugs and cockroaches; all presented by authorities in their particular fields. Walter S. McCloud, president of the National Pest Control Association, and of W. B. McCloud & Co., Chicago, who was originally scheduled to speak on the organization and aims of the association, was not able to attend, and his place was ably taken by H. G. Irving Sameth, past president of the association. William O. Buettner, secretary of the National Pest Control Association, Brooklyn, spoke on the "Control of Termites."

N. L. Fremed, Sameth Exterminating Co., New York, covered the subject, "Control of Dermestids and Clothes Moths." Dermestids, he said, are very numerous and their control is essentially a matter of good house-keeping. The greater spread of carpet beetles and clothes moths, he continued, may be partly attributed to insulation which is now being installed in many new homes and apartment houses. The greater spread naturally, means more rigid control and calls for specialization in this type of work. Mr. Fremed then gave an example of a typical procedure used in the extermination of these household pests, and enumerated the factors determining the cost of the work. In the discussion following this presentation, it was felt that the removal of hair felt insulation from a home was advisable when it was found favorable to the breeding of moths. However, it was also pointed

out that a great deal of hair felt insulation on the market today has been made mothproof by the manufacturer.

The "Control of Bedbugs" was the subject of a talk by Col. Leopold Philipp, Disinfecting and Exterminating Corp., New York, who compared bedbug control work of twenty years ago with that taking place today, stressing the importance in the improvement of various insecticides, sprayers and technique of the operators. Government literature on the subject has also helped greatly, he said, and the pest control operator is indebted to the government for much of his information about bedbugs. Together with this talk, Col. Philipp exhibited and demonstrated different types of sprayers, explaining the advantages in the use of each.

Lothar Vogel, Atlantic Exterminating and Fumigating Co., Brooklyn, in his paper on "Control of Cockroaches," scored the guarantees given by many retail dealers for roach paste bought by the householder. These guarantees, he said, amount to practically nothing as the retailer can always state that the householder did not follow directions. And such is the case in a majority of instances. The control of roaches, he continued, is best left to the experienced pest control operator who has found sodium fluoride suitable for the German Cockroach and a phosphorus paste or a water, flour and thallium phosphate mixture suitable for other cockroaches. The use of these poisons by inexperienced persons is a very dangerous practice, he warned. The procedure in the control of cockroaches is essentially that used in the control of any other household pest. Mr. Vogel said, the steps being based on the following questions: (1) Where is the cockroach? (2) What type is it? (3) What material is available for its exter-

mination and (4) How should it be applied? It was also pointed out that cockroach control work needs insecticides which last longer than those needed for the extermination of bedbugs, etc.

Results of a study on the toxicity of phosphorus against cockroaches were reported by Prof. F. L. Campbell, Ohio State University, speaking before the recent annual meeting of the National Pest Control Association in New York. For the study a commercial, 2 per cent phosphorus paste was used. In this product phosphorus is finely dispersed and suspended in a viscous medium.

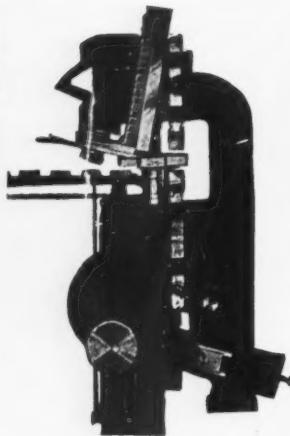
By quantitative feeding of phosphorus paste diluted with syrup, the median lethal dose of phosphorus for the American cockroach was found to be 0.02 mg. per gm. showing that it is a highly toxic stomach poison for this species. Phosphorus was much more toxic to the American cockroach than was sodium arsenite or sodium fluoride when the latter were fed in the same viscous medium and phosphorus was imbibed more rapidly and with less regurgitation than were the other two poisons. Sodium arsenite was more toxic in water than in syrup, but even in water it was less toxic than phosphorus.

The German cockroach was less susceptible to phosphorus in paste diluted with syrup than was the American cockroach, the M.L.D. for the former being 0.13 mg. per gm. as compared with 0.02 mg. per gm. for the latter. The large M.L.D. for the German cockroach cannot alone account for the failure of phosphorus paste to control this species in practice. It is likely that the German cockroach does not imbibe paste as freely as does the American cockroach, Prof. Campbell observed.

Conklin-Kray Laboratories, manufacturing chemists, West New York, N. J., have moved to new and larger quarters at 48 Oak St., Ridgefield, N. J.

Kelvedon Soaps, Brooklyn, have moved to new and larger quarters at 17 Forrest St.

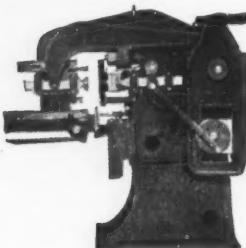
Special Offerings of **SOAP MACHINERY** *Completely Rebuilt!*



Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



II-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC
combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

**INVESTIGATE
THESE SPECIAL
BARGAINS**

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- II-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and II-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

*Send us a list of your surplus equipment—
we buy separate units or complete plants.*

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO

Our Forty Years Soap Experience Can Help Solve Your Problems

Phone Yards 3665-3666

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Wanted: Position as salesman with reliable manufacturer of insecticides. Experienced. Address Box No. 714, care of *Soap*.

Salesman—Man with following among factories, institutions, etc., in New England on sanitary supplies, janitor supplies, etc., desires to make new connection with Eastern manufacturer. Good record, best references. Not interested one-item commission propositions or side lines. Address Box No. 718, care of *Soap*.

Insect Specialist: Cornell entomology graduate, desires connection with insecticide firm. Useful rearing insects, making tests. Address Box No. 719, care of *Soap*.

Chemist, Ph.D.: many years practical experience in soaps, oils, fats, cosmetics, textile chemicals, etc., desires suitable connection. Address Box No. 716, care of *Soap*.

Soapmaker, Chemist, Perfumer—long time in laundry and toilet soaps; glycerine production; improve plants, processes, etc. Correspondence English or Spanish. Address Box No. 717, care of *Soap*.

Soap Maker and Chemist with long experience in the manufacture of all kinds and grades of soaps and soap products. Pacific coast preferred. Address Box No. 712, care of *Soap*.

Chemist: Soap expert, wide practical experience, specializing manufacture soap powders, also bleaching oils, fats, desires connection soap manufacturer. Address Box No. 720, care of *Soap*.

Positions Open

Sales Representatives—Manufacturer of insecticide raw materials wants sales representatives on Pacific Coast and in Southeastern, Southwestern and Eastern States. Address Box No. 710, care of *Soap*.

You Are Invited

to our

"GET-TOGETHER"

DURING CHEMICAL SHOW WEEK

DECEMBER 4th to 9th

Hotel Lexington

Suites 1402-4

48th Street and Lexington Ave., N. Y. C.

Opposite Grand Central Palace.

Visit our Rebuilding Shops and
Storeyards covering 8 acres at
335 Doremus Ave., Newark, N. J.
—only 30 minutes away.

Inspect our large stock of
SOAP MACHINERY

CONSOLIDATED PRODUCTS CO., INC.

15-21 PARK ROW
Barclay 7-0600

NEW YORK, N. Y.

Cable Address: Equipment

We buy your idle Machinery—Send us a list.

"Before you Buy—Ask WECOLINE"



We Offer

a remarkably high standard
of purity and white color.

LAURIC
COCONUT FATTY ACID.

WECOLINE Products, Inc. BOONTON, N.J.
Sales Offices: NEW YORK CHICAGO BOSTON

Miscellaneous

For Sale: Well established insecticide business in Florida. Unlimited possibilities in chemical and janitors supplies. Address Box No. 711, care of *Soap*.

Oranges and Grapefruit. New Crop Tree Ripened Fruit. Fifty pound box \$3.88 express prepaid. Let us send a box to your friend under your name. Georgia's Finest Paper shell PECANS 25c pound delivered. Shelled PECANS five pounds \$3.75. Address Nichols and Co., Kingston, Ga.

Wanted for User: Soap chip dryer; filter press; foot and automatic soap press; crutcher; plodder; milling roll; dry powder mixers. What have you. Address Box No. 713, care of *Soap*.

Complete Soap Plant Equipment for Sale: Proctor soap chip dryer; automatic soap press; wrapping machine; 4 roll stone mills; foot press; plodders 6", 8", 10"; soap boiling kettles; 6 knife chipper; two-way cutting table; frames; filter presses; crutchers; mixers; boilers. Stein Equipment Corp., 426 Broome St., New York City.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Who's Who in the Chemical Industry?

Check up on the past records, company connections, hobbies, interests, accomplishments, etc. of your customers, competitors and friends in the chemical processing industries. The second edition of *Chemical Who's Who* lists 5,686 biographies. Cross-indexed geographically and by companies.

\$6.00 per copy

Send check with order to



MACNAIR-DORLAND CO.

254 West 31st St.

New York, N. Y.

Mr. Jobber:

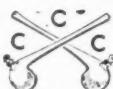
HERE IS YOUR COMPLETE LINE OF

COLE-SPEED

CHEMICAL COMPOUNDS

AND

SANITARY CHEMICALS



WRITE FOR COMPLETE CATALOGUE AND PRICES.

INSECTICIDES	POLISHES
DISINFECTANTS	SOAP
DEODORANTS	WAXES
INDUSTRIAL	OILS
CHEMICALS	ETC.

For the trade only; in bulk or small packages under private brand.

COLE CHEMICAL CORP.

Long Island City

New York

TALLOW
LARD OIL
NEATSFOOT OIL
ANIMAL STEARINE
ACIDLESS TALLOW OIL

Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bradesburg, P. O. Philadelphia, Pa.

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, on page 146 for page numbers. "Say you saw it in SOAP."

ALKALIES

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Floor Products)
Chemical Supply Co. (Disinfectants, etc.)
Clifton Chemical Co. (Sanitary Supplies)
Cole Chemical Corp. (Sanitary Supplies)
Davies-Young Soap Co. (Potash Soaps)
Empire Chem. Prods. Co. (Sanitary Supplies)
Federal Varnish Co. (Floor Products)
Fuld Bros. (Sanitary Supplies)
James Good, Inc. (Sanitary Supplies)
Harley Soap Co. (Soap Specialties)
Higley Chemical Co. (Floor Seal)
Hockwald Chemical Co. (Sanitary Supplies)
Hysan Products Co. (Sanitary Supplies)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
Onaim Co. (Shampoos)
John Opitz, Inc. (Insecticides)
Peck's Products Co. (Sanitary Supplies)
Philadelphia Quartz Co. (Detergents)
Prominent Specialty Co. (Floor Products)
Reilly Tar & Chem. Co. (Floor Seals)
Theo. B. Robertson Prods. Co. (Soaps & Brushes)
Geo. A. Schmidt & Co. (Soaps)
Shawmut Specialty Co. (Wax Products)
Superior Soap Corp. (Soaps and Waxes)
Sweeping Compound Mfrs. Co. (Sweeping Compound)
Twin City Shellac Co. (Wax Products)
Uncle Sam Chemical Co. (Sanitary Supplies)
T. F. Washburn Co. (Floor Products)
White Tar Co. (Disinfectants, etc.)
Windsor Wax Co. (Wax Products)

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.

Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Reilly Tar & Chemical Corp.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)
American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Pittsburgh Coal Carbonization Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS AND CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures and Bottles)
Henry Carroll & Co. (Closures)
Continental Can Co. (Tin Cans)
National Can Co. (Cans)
Owens-Illinois Glass Co. (Bottles and Closures)
Williams Sealing Corp. (Closures)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.
Hysan Products Co.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Associated Chemists, Inc.
Rohm & Haas Co.
U. S. Industrial Chemical Co.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Mixing Equipment Co. (Tanks, Mixers)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc.)
Stokes & Smith Co. (Pkg. Machy.)

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MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
Barnsdall Tripoli Co. (Pumice—Tripoli)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Fay Co. (Floor Machines)
Filtrol Corp. (Purifying and Decolorizing Clay)
General Petroleum Corp. (Naphthenic Acids)
C. H. W. Hasselriis (Red Squill)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
Lenape Trading Co. (Waxes)
Michel Export Co. (Synthetic Detergents)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
Reilly Tar & Chem. Co. (Preservatives)
Socony-Vacuum Oil Co. (Naphthenic Acids)
U. S. Industrial Alcohol Co. (Alcohol)
U. S. Industrial Chemical Co. (Solvents)

OILS, FATS, AND FATTY ACIDS

Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leighorn Trading Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING MATERIALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. Du Pont de Nemours & Co.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.

Magnus, Mabee & Reynard, Inc.

Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petroleum,
Paraffine Oils, Residues, etc.)
Atlantic Refining Co.
Pennsylvania Refining Co.
L. Sonneborn Sons

PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris
Products
Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
Whitmire Research Corp.

SILICATES

E. I. du Pont de Nemours & Co.
General Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.
Hockwald Chemical Co.
Moore Bros. Co.

SPRAYERS

Breuer Electric Mfg. Co. (Electric)
Fumeral Co. (Spraying Systems)

WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.
American Cyanamid & Chem. Corp.
Innis, Speiden & Co. (Waxes)
Mantrose Corp. (Shellac)
Twin City Shellac Co. (Shellac)

Professional Directory

Pease Laboratories, Inc.

Est. 1904

39 West 38th Street New York

Chemical, Bacteriological and Pathological Testing and Research. Special Animal Investigations of Pharmacologic, Toxic or Skin Irritating Properties.

H. A. SEIL, Ph.D.

E. B. PUTT, Ph.C., B.Sc.

SEIL, PUTT & RUSBY, INC.

Analytical and Consulting Chemists

Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations

ESSENTIAL OILS

SOAP

16 East 34th Street, New York, N. Y.

STILLWELL AND GLADDING, Inc.

Analytical and Consulting Chemists

Members Association of
Consulting Chemists and Chemical Engineers

130 Cedar Street New York City

SOAPS—DETERGENTS

*Analyses
Consultation Development
Formulas*

Hochstader Laboratories

INCORPORATED New York City

KILLING strength of Insecticides

by PEET GRADY METHOD

PYRETHRINS in PYRETHRUM FLOWERS

(by Gnadinger or Seil Method)

We raised and killed more than 1 million flies in the last 2 years

ILLINOIS CHEMICAL LABORATORIES, INC.
5235 WEST 65th STREET CHICAGO, ILL.

Charles S. Glickman

Consulting Chemist

SPECIALIZING IN

Research—Analyses—Formulae—Plant Design
for
Waxes—Polishes—Soaps—Cosmetics & Leather Finishes, etc.
220 BROADWAY, NEW YORK
COrland 7-3382

FOSTER D. SNELL, INC.

Chemists—Engineers

Every form of Chemical Service

305 WASHINGTON STREET BROOKLYN, N. Y.

Patents—Trade Marks

All cases submitted given personal attention
Form "Evidence of Conception" with instructions for use
and "Schedule of Government and Attorneys' Fees"—Free

Lancaster, Allwine & Rommel

PATENT LAW OFFICES

Suite 402, Bowen Building Washington, D. C.

ALAN PORTER LEE, Inc.

Contracting and Consulting Engineers

Design and Construction of Equipment and Plants
for Producing and Processing Fats, Oils,
Soaps and Related Products

136 LIBERTY STREET, NEW YORK, N. Y.
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Refer To Your 1939

SOAP BLUE BOOK

for F.D.A. Method for Testing of Disinfectants
and Antiseptics.

Official N.A.I.D.M. Method for Testing and
Grading of Insecticides.

Free with a \$3.00 subscription to SOAP.

MAC NAIR-DORLAND CO.

Publishers

254 W. 31st Street New York, N. Y.

Skinner & Sherman, Inc.

246 Stuart Street, Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for germicidal value or phenol co-
efficient by any of the recognized methods.

Research—Analyses—Tests

Say you saw it in SOAP!

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Hospitals Are Good Customers, Mr. Jobber--

for soaps, disinfectants, waxes—hundreds of items in your line. They are geared to progressive thinking—alert to equipment improvements. Show them something new, something practical, something essential which is also inexpensive, and you have an entree for other business that's a natural.

Our two portable hospital dispensers (No. 1032 with one spout, left, and No. 1033 with two spouts, right) are providing hundreds of jobbers with this real sales tool. Don't take our word for it. Write us for literature and see for yourself.



Bobrick Manufacturing Corporation

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*Host to most
who VISIT BALTIMORE*

The
LORD BALTIMORE
Hotel
BALTIMORE, MARYLAND

NEW and RENEWED EQUIPMENT for INSECTICIDE PLANTS . . .

REBUILT, TESTED, GUARANTEED FMC EQUIPMENT not only saves you about HALF but you can get immediate delivery. Here are a few items specially priced for SHOW WEEK. Send for complete specifications.

Two 12" Micro Pulverizers, Belt Drive, one with magnetized separator feeding hopper, the other without.

Gruendler No. 2 Direct, connected to 10 H.P., 60 cycle, 220V, 3450 RPM motor.

Gruendler Mill with eight rows of 14 hammers, each direct connected to 75 H.P., three phase, 60 cycle, 440V, 3500 RPM motor.

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Horizontal Sifters and Mixers, 200 lbs., 600 lbs., 800 lbs., 2000 lbs. and 4000 lbs.

Day Steel Frame Package Fillers.

Stokes & Smith single and multiple spout Filling Machines.

Belt and Roller Conveyors.

Liquid Mixers, Portable Agitators.

Straight Line and Rotary Syphon and other Filling Machines.

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FIRST MACHINERY CORPORATION

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and EAST RIVER DRIVE

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Cable: 'EFFEMCY'

NEW YORK, N.Y.



Late?

Does your "routed" copy of SOAP reach your desk a week or more late? A personal subscription will eliminate this annoyance. You will get your copy *promptly*. It will be *yours*. Start this month.

Annual subscription: \$3.00 Domestic \$4.00 Foreign

MacNAIR-DORLAND CO.

254 W. 31st St.

New York, N.Y.



"By the way, Cuthbert, wouldn't 1940 be a good year to pull the old typhoon yarn out of the moth-balls and send it out to the coconut oil buyers again?"

... and speaking of 1940

do your advertising plans include going after more business in the fields of soap and detergent products, insecticides and pest control, disinfectants, and allied sanitary and chemical specialties?

This active, growing field offers an opportunity for increased sales in 1940. Advertising in the outstanding and most widely read publication reaching these buyers is the most economical and effective way to open up this new business.

In considering your advertising plans for 1940, give a thought to the field covered by

SOAP and Sanitary Chemicals

254 WEST 31st STREET

NEW YORK

Member of the A.B.C. and A.B.P.

Tale Ends

AND the latest is prison soap for the public schools of New York City,—soap to be manufactured in the various city prisons and supplied to school children for washing hands and to janitors for cleaning. The objects are to give the prisoners work, to save the city money, and to answer the clamour for free soap in the schools all in one fell swoop. If experience is any teacher, we fear disappointment on all three counts.

One of the more obscure uses of soap is to grease the ways at ship launchings. Reports are from Sweden that since the outbreak of war and the serious shortage of soap abroad, they now scrape up the soap after each launching and use it again and again. This also recalls the measures that were in force in Germany during the last war to husband the country's soap supply. Among the conservation measures tried was the recovery of soap from laundry and textile wash waters.

If you enter or renew your subscription to *Soap* now, you will automatically receive a free copy of the new 1940 edition of the *Blue Book* when it is published early next year. A mighty useful volume, the *Blue Book*, — over 200 pages crammed full of valuable information. If you have received a subscription renewal notice lately, don't file it,—send in your check now!

Current tax receipts are reported so heavy from Washington that the Government is beginning to hint that no new taxes will be needed next year. Now, in this day and age, this is really news!

Just a reminder that the Decennial Census of 1940 gets under way in January. This important enterprise of obtaining a complete statistical picture of manufacturing in the United States merits the cooperation of every business man in the country.



Service Station to the Industry

With all that we can say about our products, there is nothing we can offer you that can surpass our facilities for serving you. Where insecticides are concerned we feel that our chemists and entomologists are equipped to help you solve any problem. Years of specialized experience and knowledge gained by actual, practical work in research, are available to you to help make your job easier. You need not hesitate to consult us because we sincerely want to help. And if we haven't got the answer right on tap, we'll get it. You can depend on that.

JOHN POWELL & CO., INC.

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ALSO REPRESENTATIVES IN THE PRINCIPAL CAPITALS OF THE WORLD.

PYRIN, the insecticide concentrate, combining the best features of pyrethrum and normal isobutyl undecylenamide to give you Grade AA quality at less cost. More than four out of five manufacturers are using it.

BASIC PYRETHRUM EXTRACTS

long recognized as outstanding because they are made by selective, cold extraction.

PYRETHRUM POWDERS with extremely fine milling to give you more particles per pound—greater spread with higher kill.

DERRIS, CUBE & TIMBO powders of the same fine grinding, standardized for uniformity of rotenone-content.

ROtenone PRODUCTS, C.P. Crystals, Solvates, Extracts—products to meet your specifications as you need them.

PYAGRA & PYAGROL, self-emulsifying plant sprays for bulk preparation with water.

STIMTOX, the fortified pyrethrum powder that makes effective dusting economical. Widely used by Pest Control Operators.

Don't Kill
Your
Killing Power

PYRISCENTS

Reg. U. S. Pat. Off.

the first insecticide perfume oils specifically compounded and thoroughly tested for chemical compatibility with the active principles of Pyrethrum or Pyrin and for complete physical solubility in petroleum oil bases. They permit the utmost economy in the use of insecticide perfumes because they can be depended upon to develop their full odor value without injury to the killing power of your spray.

Ask yourself these questions about your perfume oils:

Do they reduce or destroy the killing power of your sprays?

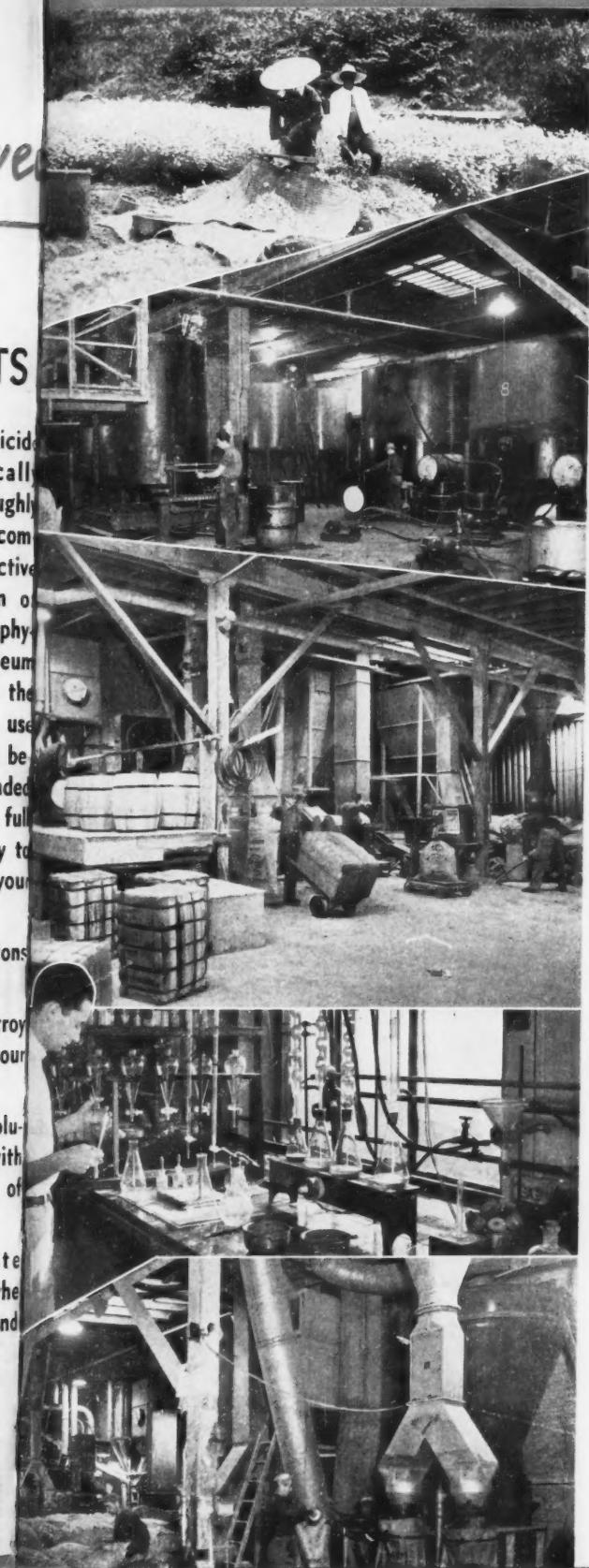
Are they completely soluble and compatible with all of the ingredients of your sprays?

You should investigate PYRISCENTS. Tell us the type of odor you like and we'll send you samples.

—That's the Thing!

& COMPANY, Inc.

POWCO
BRAND
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"Time still, as he flies, brings
increase to her truth.
And gives to her mind what he steals
from her youth."
—Edward Moore.

Put on your retrospectacles and glance back with us on a few of the highlights and low shadows.

Do you remember when—
—everybody thought that Pyrethrum produced a delicate mysterious gas which enveloped and asphyxiated insects?

—a fly-swatter was a necessary accessory to a spray gun and the meticulous housewife bought wallpaper that wouldn't show where the fly had been squashed?

—all you needed to make an insecticide was a pound of insect powder and a gallon of kerosene—and a prayer?

—you "tested" your product in some place where you would find the most flies, noting carefully the results but puzzling over the wide differences between one test and another?

Then you set out to do something about it. You questioned every item connected with your raw materials. You stimulated entomologists to find out exactly how the insect was built and how the pyrethrum killed him.

You may proudly boast today that you know a lot about your product and you may astound your friends with a lively vocabulary full of long scientific words, words full of vital meaning to you. And all because of your unrelenting desire for more of the reasons why.

It has been a long time, we think, since the cartoonist has lampooned the entomologist as an effeminate butterfly chaser. Your entomologist, through his painstaking research, has brought you the reason why you kill the insect. He has also given you knowledge of the habits of various insects so that you may better combat them with your products. By still more research you learned that the female is more deadly than the male and harder to kill; that small flies are really not going to grow up to become big ones; and that accurate testing of sprays on live flies can be done only by strictest attention to uniformity of procedure.

With becoming modesty, we blushingly hint that throughout this period of research and development, we too contributed to your knowledge through the brow-sweat of our own entomologists and chemists—to the end that you may continue to improve your products and reduce your production costs.

Without the impetus you have given the industry, it is possible that ambition for increased knowledge might have lagged, the urge to wander afield might have overcome the necessity for improvement. That's why we feel that congratulations to the Insecticide Manufacturer are in order, not as a sop to the passing of time but as a tribute to definite accomplishment earned by cooperative effort and the will to go ahead.

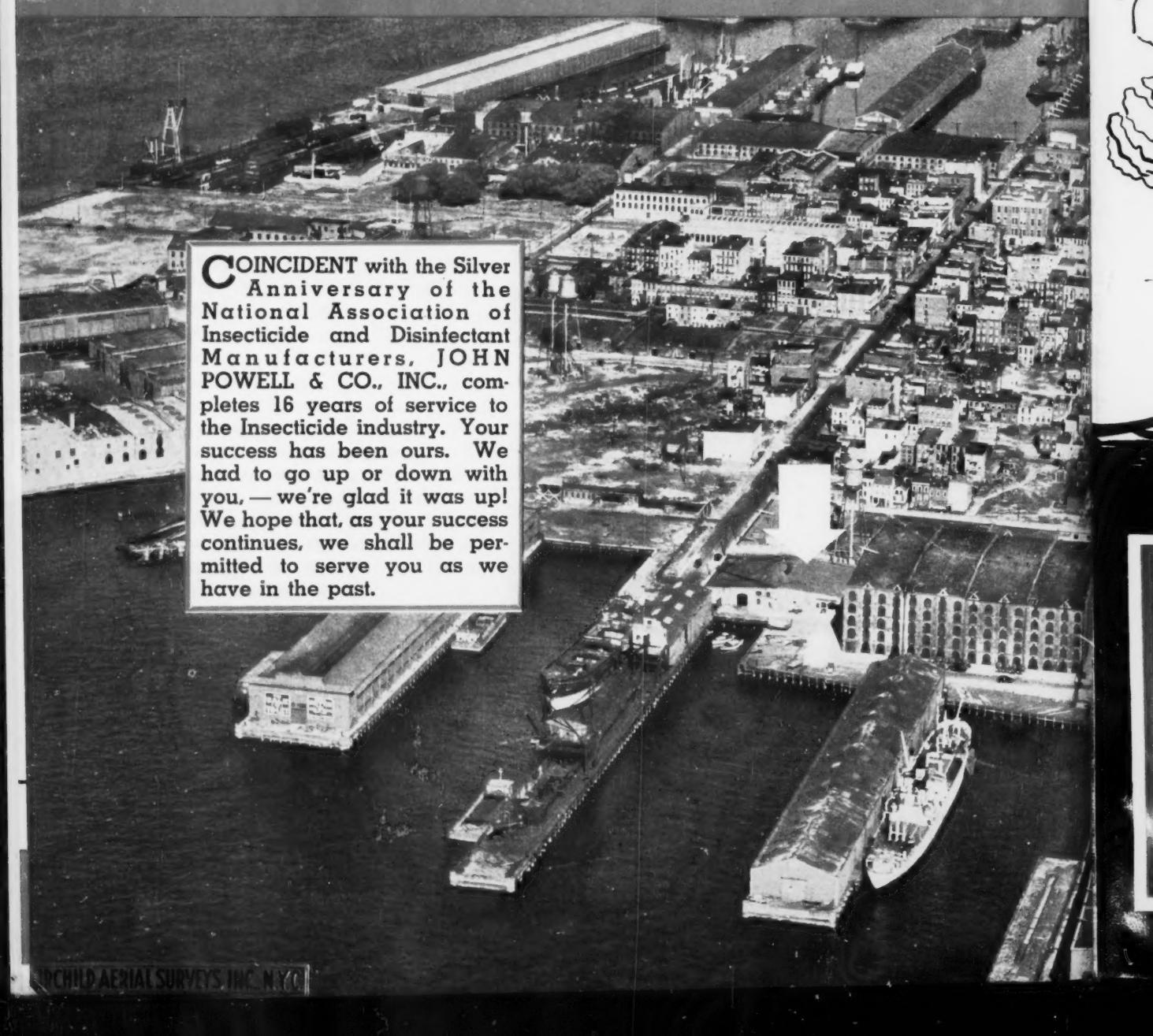
Killing Power

POWCO BRAND JOHN POWELL
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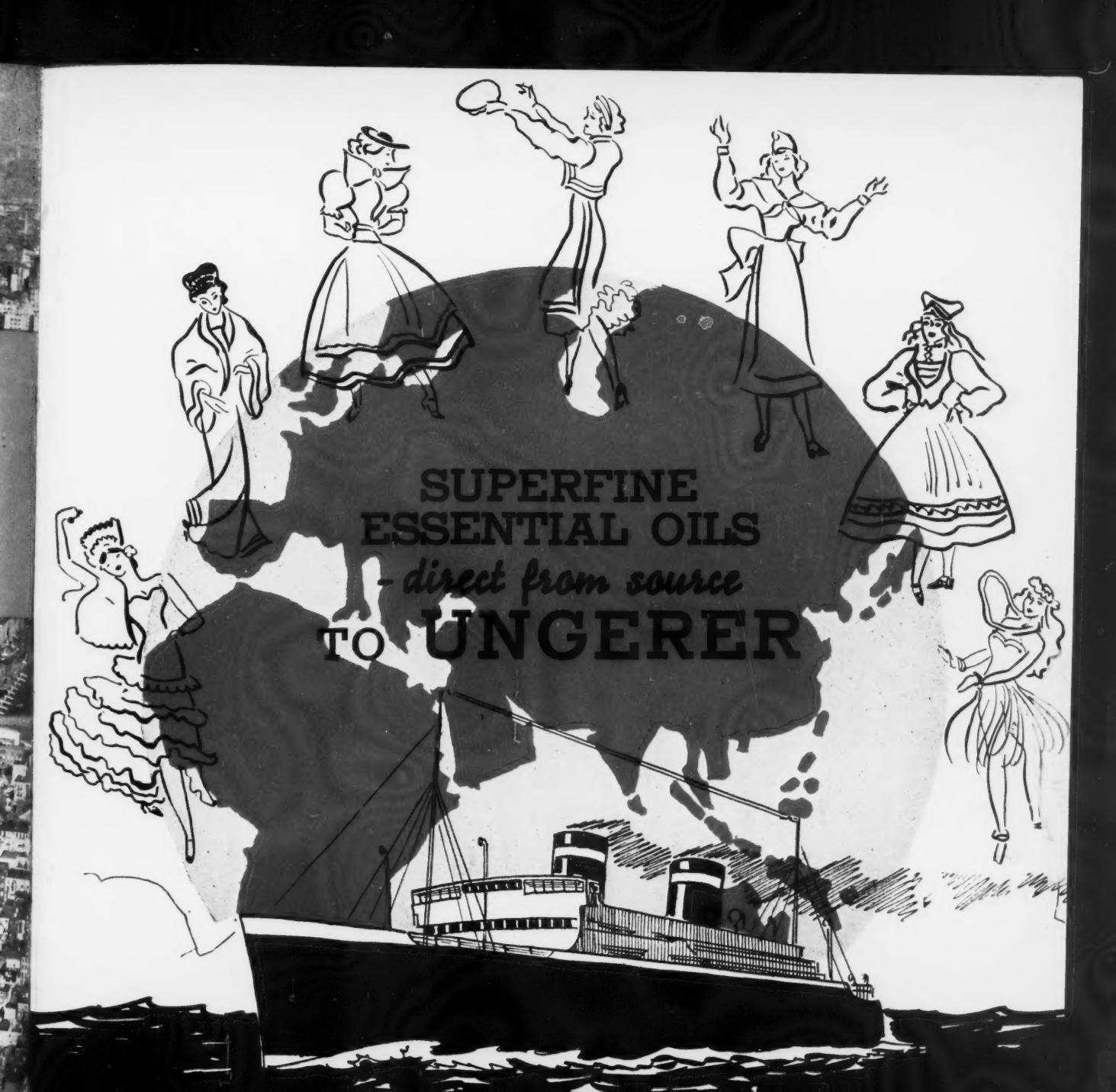


POWCO BRAND

REG. U.S. PAT. OFF



COINCIDENT with the Silver Anniversary of the National Association of Insecticide and Disinfectant Manufacturers, JOHN POWELL & CO., INC., completes 16 years of service to the Insecticide industry. Your success has been ours. We had to go up or down with you, — we're glad it was up! We hope that, as your success continues, we shall be permitted to serve you as we have in the past.



**SUPERFINE
ESSENTIAL OILS**
- direct from source
TO UNGERER

UNGERER occupies a unique position in foreign trade circles. Our policy is to import direct. Our customers and ourselves prefer our Ungerer method. In most cases, we go direct to select sources, many of which we have used for decades. Ungerer gets first, oftentimes, exclusive selection. Then our exhaustive approval tests before we permit our rep-

utation to be identified with any product. You then receive Ungerer products, Ungerer-approved, at efficiency prices. Bergamot, Bois de Rose, Geranium, Lavender, etc. . . . from every standpoint our imports have to keep their top-notch ranking in a competitive world. Let us serve you under this Ungerer method when next you are in the market.

UNGERER & CO.

13-15 WEST 20th STREET

Philadelphia

Chicago

Boston

St. Louis

NEW YORK

Los Angeles

San Francisco

Toronto



...and you're loaded
for RABBIT!



If bruin wants the right-of-way
you won't dispute him with a
.22 rifle—unless you have un-
warranted faith in its killing
power.

Are you pinning your hopes on another inadequate weapon? Your insecticide may be deadly to flies, but what about roaches, moths, silver fish, bedbugs, and ants and other "big game" that lurk in households?

Unfortunately, the Peet-Grady test fails to indicate the effectiveness of insecticides against other pests than flies. For example, certain synthetics, highly rated by the Peet-Grady test, have been found almost inert against roaches.

Certain synthetics, when added to pyrethrum concentrates, cause the Seil method to show a higher pyrethrin content than is actually present.

But there is a sure way to get an insecticide whose killing power is effective against insects harder than the housefly—choose Pyrocide 20. Pyrocide 20 is standardized as to pyrethrin content. It contains no synthetics. It is specially treated to remove "false" pyrethrins. Thus the Seil test will show the actual amount of pyrethrins (killing power) present.

Pyrocide 20 is guaranteed to contain 2.5% pyrethrins by weight—2 grams per 100 c. c. Uniformity is assured by three analyses during manufacture, the last taking place just before shipment.

Insecticide manufacturers who use Pyrocide 20 enjoy a repeat business based on the superior performance of their products.

McLAUGHLIN GORMLEY KING COMPANY
Minneapolis, Minnesota

PYROCIDE 20

THE PUREST FORM OF PYRETHRINS COMMERCIALLY AVAILABLE

